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ABSTRACT

A study was undertaken to develop guidelines for the future course of graduate medical education (GME) in New Jersey. General findings were that the current array and total number of hospital-based GME offerings by specialty and location appear sufficient, although attention must be paid to appropriate distribution; that the major basis of funding for hospital-based GME programs should continue to be provided from patient care revenues through the current system in sufficient amounts to safeguard program quality; and the quality of programs should continue to be monitored regarding medical school affiliation, formal accreditation, and the continuing presence of foreign medical school graduates. Major recommendations include the following: (1) the state's GME training capacity should be expanded only if adequate funding is available, appropriate standards of quality can be assured, and a need for additional training opportunities is demonstrated; (2) hospital reimbursement should be based upon determinations that the GME programs address state physician manpower needs and possess both formal accreditation and medical school affiliation; (3) uniform and improved methods of hospital accounting and reporting procedures for reimbursement determinations should be developed; and (4) an expanded database, for monitoring and verification of capacity and quality, should be developed and maintained. Appendices provide information and tables on physician shortages and demand, distribution of residents, legislation and hospitals. Contains 20 references. (KM)

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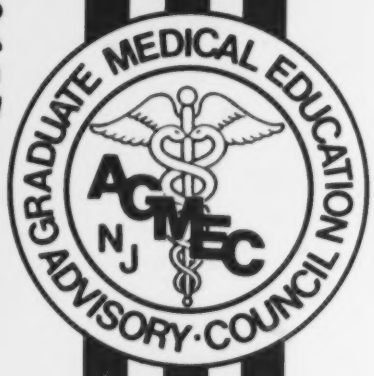

A POLICY PROSPECTUS FOR GRADUATE MEDICAL EDUCATION IN NEW JERSEY

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KWAI-FONG CHUI, Ph.D.
Program Officer, Office of the Medical University
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A POLICY PROSPECTUS FOR GRADUATE MEDICAL EDUCATION IN NEW JERSEY

NEW JERSEY STATE DEPARTMENT OF HIGHER EDUCATION
ADVISORY GRADUATE MEDICAL EDUCATION COUNCIL

1985

FOREWORD

At the January 10, 1984 meeting of the Advisory Graduate Medical Education Council (AGMEC), Dr. Stanley S. Bergen, AGMEC Chairman, issued a charge to AGMEC members and staff to undertake a study to develop guidelines for the future course of graduate medical education in New Jersey. The issues to be considered include the state's medical manpower needs, current and future graduate medical education offerings, and residency cost and financing mechanisms. This charge is in keeping with the mandate of the Advisory Council, under the aegis of the State Department of Higher Education, to provide statewide leadership and coordination for graduate medical education offered in New Jersey.

Dr. Bergen appointed a committee to undertake this task. Its members included Dr. Richard Reynolds of UMDNJ-Rutgers Medical School, Mr. Charles Pierce of the New Jersey Department of Health, and Mr. Louis Scibetta of the New Jersey Hospital Association with staff support to be provided by the Department of Higher Education's Graduate Medical Education Program.

This document presents the results of the committee's study. On August 17, 1984, the Advisory Graduate Medical Education Council unanimously approved this Policy Prospectus for Graduate Medical Education in New Jersey and recommended the document for consideration by the Board of Higher Education. The Board adopted the Prospectus at its meeting on September 21, 1984.

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EXECUTIVE SUMMARY

In keeping with its legislative mandate (P.L. 1977, Ch. 390) to provide leadership and coordination for graduate medical education (GME) offered in New Jersey, the Advisory Graduate Medical Education Council (AGMEC) recently undertook a study to develop guidelines for the future course of GME in the state. Several areas pertinent to this issue were examined, including the state's projected medical manpower needs; the number, scope, and quality of GME offerings in the state; and GME program costs and financing mechanisms. The result of this study, A Policy Prospectus for Graduate Medical Education in New Jersey, presents general policy recommendations for the future direction of GME in the state.

Within the context of an expected abundance in physician supply, hospital financing and cost containment concerns, and the resource requirements needed to offer quality GME programs, the Policy Prospectus addresses the following general findings concerning GME in New Jersey.

- The current array and total number of hospital-based GME offerings by specialty and location appear sufficient overall to address the state's projected physician manpower needs. However, continuing attention must be paid to assuring an appropriate distribution of GME opportunities with respect to future physician manpower needs, primary care requirements, and medical manpower shortage areas.

- The major basis of funding for hospital-based GME programs should continue to be provided from patient care revenues through the state's DRG system in sufficient amounts to safeguard program quality.

- The quality of New Jersey GME programs should continue to be monitored in terms of such parameters as medical school affiliation, formal accreditation by ACGME or AOA, and the continuing presence of foreign medical school graduates, both aliens and U. S. citizens.

In view of these findings, the overall thrust of the document's major recommendations, involving cooperative endeavors among participating hospitals, the AGMEC, the Department of Higher Education, the Department of Health and the Hospital Rate Setting Commission, can be summarized as follows:

- The state's GME training capacity, currently established at an overall total of approximately 2,400 positions, should be expanded only if adequate funding is available, appropriate standards of quality can be assured, and a need for additional training opportunities is demonstrated. GME programs should be monitored, on a regular and continuing basis, in order to promote responsiveness to changing physician manpower requirements by specialty and geographic area and to assure program excellence.

- Hospital reimbursement for GME-related expenditures from patient care revenues should be based upon determinations that GME programs address state physician manpower needs and possess both formal accreditation and medical school affiliation.

- Uniform and improved methods of hospital accounting and reporting procedures for reimbursement determinations, including criteria and standards regarding appropriate reimbursable GME costs, should be developed.

- An expanded data base, to permit careful monitoring and verification of both capacity and quality of existing GME programs, should be developed and maintained as part of the planning and coordinating activities of the Graduate Medical Education Program.

In view of these considerations, the recommendations presented in the Policy Prospectus are intended to provide a general framework for guiding the future course of GME in New Jersey. The overall aim is to maintain a network of diverse and varied GME programs, responsive to state medical care needs, that are cost effective while maintaining both educational excellence and the quality of patient care.

A POLICY PROSPECTUS FOR GRADUATE MEDICAL EDUCATION IN NEW JERSEY

The future course of graduate medical education (GME), both nationally and statewide in New Jersey, will likely be influenced by a number of current trends and emerging issues. Chief among these is an abundance of physicians projected for the United States by 1990. This expected abundance is due largely to the greatly expanded medical school and GME physician training capacity that was created nationwide to remedy the U.S. physician shortage identified in the 1960s, and to the continued influx of physicians, both U.S. citizens and foreign nationals, trained abroad. While a surplus is expected in some practice areas, physician shortages are likely to continue in the primary care areas of family practice, general internal medicine, obstetrics/gynecology, and pediatrics, and in certain medically underserved urban and rural areas. Concurrently, many hospitals, faced with a host of economic constraints, are curtailing certain services in order to maintain efficient, high standard operations. In some cases, as a result of rising costs, inadequate revenues and declining admissions, hospitals are closing patient units, such as obstetrics or pediatrics. Others are discontinuing GME programs or trimming the number of available positions due to constrained resources and/or inadequate admissions in certain care areas that would hinder the provision of quality GME training experiences.

With an expanding pool of GME applicants, the competition for positions in U.S. hospital-based GME programs is intensifying. While U.S. medical school enrollments will continue to increase until 1985, the availability of residency positions is decreasing. The residency positions offered in the voluntary National Resident Matching Program (NRMP) have declined from a high of 18,331 in 1981 to 17,952 in 1983, while the number of applicants has soared from 16,000 to 20,000 during the same period (NRMP, 1983). Competition for available positions is keen. In 1983, the ratio of offered positions to active applicants was 0.89 overall compared with a 1.14 ratio in 1981. Moreover, the NRMP pool of applicants also includes an increasing number of U.S. citizens trained in foreign medical schools (USFMG) who are applying for U.S. residency posts. In 1981, NRMP reported over 500 active USFMG applicants with this figure rising to 1,300 in 1983. In 1983, only 8% of U.S. medical school graduates (USMG) failed to match, while NRMP data show that 51% of the USFMGs were unsuccessful. Alien foreign graduates (AFMG) had an even poorer showing with only 26% matching. This trend is expected to continue.

The vast majority of Americans studying medicine abroad anticipate returning to the U.S. for their residency training. A 1982-83 survey of New Jersey teaching hospitals revealed that 28.5% of all residency slots in the state were filled by USFMGs. Such students will presumably continue to seek residency posts in the state. Moreover, this survey also indicated that 31.4% of the physicians in GME training in New Jersey were AFMGs. The passage of federal legislation, P.L. 94-484, aimed at curtailing the flow of AFMG physicians into this country, has not had the impact on physician manpower in the state once expected. While the number of AFMG physicians

in New Jersey GME programs has decreased somewhat, it is uncertain whether this decline is an effect of the legislation or due to the intensifying competition among all medical school graduates for available GME slots.

Based on their traditional interest in New Jersey GME programs, it can be expected that both USFMG and AFMG physicians will continue to apply to state programs. With competition rising among graduates from both U.S. and foreign medical schools for available GME positions, pressure may be exerted to expand hospital residency programs to provide training opportunities sufficient in number to accommodate all or most of these graduates. This circumstance assumes added importance considering that most states require GME training as a prerequisite for licensure of physicians to practice.

Further, it is important to recognize that the public's need for medical services is not necessarily satisfied by simply increasing the total supply of available physicians. Access to care is influenced by a number of factors including location of practicing physicians, transportation capability, cost of care, extent of consumer insurance coverage, type of care available by specialty, etc. Even though the expanding supply of physician manpower has improved physician availability in certain service areas, many communities, in New Jersey and elsewhere, continue to experience inadequate access to physician services. Given the present trend of declining numbers of residency slots, an expanding GME applicant pool, a predicted physician abundance and persisting physician manpower maldistribution, a careful examination of the GME system in New Jersey is necessary to ascertain its adequacy to address current and projected physician manpower requirements.

Moreover, increasing competition among physician graduates for residency training positions and the persistence of geographic maldistribution have been compounded by a corollary development. Hospitals are experiencing severe financial strains. Under pressure from an assortment of consumers, third-party payers, and governmental agencies, hospitals have initiated a variety of cost cutting and cost containment actions. As a result, hospital graduate medical education programs are increasingly scrutinized to determine whether their physician training function and accompanying costs merit continuation. Thus, a primary concern for medical educators today is to secure a stable means of long-term financial support in order to ensure the adequacy and availability of high quality residency programs addressing societal needs.

This paper examines these and related issues with special consideration given to their influence on the future course of graduate medical education programs in New Jersey. Discussion will focus on general issues in graduate medical education, both nationally and in New Jersey -- the physician manpower outlook in the state, adequacy of New Jersey hospital residency programs to address state needs, and graduate medical education program costs and financing mechanisms. Recommendations are presented outlining a policy framework for a future course of action to ensure a cost efficient system of high quality hospital-based residency programs responsive to state needs for both training adequate numbers and types of physicians.

FEATURES OF GRADUATE MEDICAL EDUCATION

Graduate medical education is that phase of formal physician education that occurs subsequent to graduation from medical school. During the first half of this century, physicians commonly engaged in a year of internship to obtain practical experience prior to assuming the responsibilities of medical practice. However, in the period following World War II, physicians increasingly continued beyond this internship year to undergo specialized training in one of a variety of residency programs. By the mid-1970s, the direct transition to residency training from medical school graduation had gained general acceptance, due largely to practice requirements set by state licensure and medical specialty boards. Today, nearly all (over 95%) medical school graduates enter residency training. The year of general internship has been replaced by a one-year transitional residency program allowing graduates the option of obtaining a general range of practical experience prior to commencing specialty training. In 1983-84, transitional programs were selected by 1.9% of the total residents. Additionally, physicians having completed a GME program may elect to continue with enrollment in another GME specialty or subspecialty program area prior to entering practice.

Traditionally, GME has been based in hospitals. Currently, most hospitals offering residency training maintain medical school affiliations as a means to ensure program quality and increase the training and faculty resources available to the program. Residency programs encompass primary care specialties as well as the spectrum of non-primary care specialties and subspecialties. The medical specialty certifying boards exert a significant influence on the scope of GME. These boards establish the minimum educational criteria and training requirements for residents to attain in order to be considered for certification in that specialty. Depending on the specialty, the length of residency training varies from three to seven years.

GME program accreditation for allopathic physician training is the province of the Accreditation Council for Graduate Medical Education (ACGME). This body is jointly sponsored by the the American Board of Medical Specialties, the American Hospital Association, the American Medical Association, Association of American Medical Colleges, and the Council of Medical Specialty Societies. The Residency Review Committees (RRC), in cooperation with the specialty boards, identify minimum requirements for approval of programs and then review residency programs to determine if these requirements are met for the purpose of recommending accreditation to the ACGME. Presently, the ACGME accredits residency programs in 24 areas plus nine subspecialties in internal medicine and three in pediatrics. Accredited programs are listed in a directory published annually by the American Medical Association. Additionally, osteopathic residency training programs are approved by the Committee on Post-doctoral Training of the American Osteopathic Association. A listing of approved programs is published in the Association's Yearbook. In order to obtain and maintain accreditation, residency programs are periodically assessed by the appropriate accreditation body to ensure consistent standards of quality of GME programs nationwide.

Graduate medical education has evolved to assume an increasing degree of importance in the preparation of physicians for medical practice. The undergraduate period of medical education is no longer sufficient to prepare a student for independent medical practice without supplementation by graduate medical training. Under appropriate supervision, residents gain sufficient knowledge and skill to progressively assume more responsibility for decisions regarding the diagnosis and treatment of patients. In addition, entry into a residency program is a primary determinant of a physician's choice of career specialty. Also, residency training is a prerequisite for licensure to practice in all but fourteen states. The residency period shapes careers and largely determines the number and types of specialists who will enter practice. Further, studies indicate a strong correlation between site of residency training and selection of eventual practice location. Therefore, GME is a logical focal point for analyzing the adequacy and availability of training opportunities in terms of overall physician needs.

National Perspective

It is generally acknowledged that no central focus exists nationally to plan or respond to problems in the area of GME. However, in 1980, the Graduate Medical Education National Advisory Committee (GMENAC), operating under the direction of the U.S. Department of Health and Human Services, issued an extensive report on the condition of GME in the U.S. and its relationship to the medical care needs of the nation. The report projected an abundance of physicians by 1990, with virtual surpluses likely in certain specialties and geographical areas. Its analyses reinforced prevailing perceptions that an overabundance of non-primary care specialists and subspecialists was developing together with a maldistribution of physicians in primary care fields and medically underserved inner-city and rural areas. Among the reasons cited for this outcome by GMENAC were that non-primary care specialties tend to be viewed as more lucrative career choices, carrying higher professional status and prestige, and that although these specialties require specialized skills and expertise, these practice areas are commonly seen as having less demanding work conditions. Also, it is generally acknowledged that patient care reimbursement plans provide more favorable reimbursement to the more technical, procedure-oriented specialties than to the primary care fields.

GMENAC made numerous recommendations for consideration and voluntary enactment by the medical care and medical education establishments. These included cutbacks in medical school admissions; emphasis on the training of primary care practitioners, especially family practice, general internal medicine, pediatrics and obstetrics/gynecology; incentives for physicians to practice in underserved urban and rural areas; and development of a stable base of financial support for GME programs. GMENAC also encouraged state and local initiatives to identify problems in the geographic distribution of physicians, to design programs for dealing with these problems, and to closely monitor the performance of such efforts. A 1980 report issued by the Macy Foundation reached a similar conclusion. Further, this report recommended that, as a means to ensure that decisions or recommendations are not the product of bias,

state level initiatives should be entrusted to a group composed of representatives of a wide range of affected interests and a number of public representatives.

New Jersey Perspective

New Jersey has long experienced difficulty in attracting graduates of U.S. medical schools to its residency training programs. As a result, the state relied heavily on the use of foreign-trained physicians to staff its GME programs. As recently as 1978-79, a survey of New Jersey hospital residency programs showed that of a total of 1,870 residents, nearly 70% of the physicians in GME training were either foreign-born or U.S. citizen graduates of foreign medical schools. Only 578, or 30.9%, were graduates of U.S. medical schools. Of the FMGs, 1,046 (55.9%) were foreign nationals and 246 (13.2%) were U.S. citizens. This circumstance further underscored concerns that the education and medical training of FMG physicians did not reflect a standard of quality consistent with that found among their counterparts from U.S. medical schools. Whereas curriculum standards for U.S. schools are established and monitored by the Liaison Committee on Medical Education (LCME) for accreditation purposes, most foreign medical schools, particularly those recently established in the Caribbean region, generally are not subject to such curriculum oversight.

In general, New Jersey's inability to attract graduates from U.S. medical schools was thought to be due to a common perception that the state's GME programs lacked sufficient educational excellence to attract these physicians. A major cause of this problem was that until the 1970s, New Jersey lacked a readily available means for its hospital GME programs to secure medical school affiliations. New Jersey did not establish a State-supported system of medical education until the passage of the Medical and Dental Education Act of 1970, which created the educational institution now known as the University of Medicine and Dentistry of New Jersey (UMDNJ). The UMDNJ system presently consists of three medical schools: New Jersey Medical School, Rutgers Medical School and the School of Osteopathic Medicine. Prior to the establishment of this system, few residency programs were able to secure affiliations with out-of-state schools.

Commonly, an affiliation with a medical school is viewed as a means to ensure GME program quality since the program has access to the educational resources and faculty of the medical school and adheres to certain training criteria as negotiated with the school. Further, medical students have indicated that the educational merit of a GME program is a major determinant in their choice of residency program (AAMC, 1981). Thus, without this recognized indicator of program quality, most New Jersey hospital-based programs were hindered in their ability to attract U.S. medical school physicians for graduate training.

However, while a medical school affiliation was one means for encouraging program quality, additional measures were needed to improve the overall educational excellence of the GME programs offered in New Jersey. Toward this end, a statewide mechanism to plan, support, monitor, and improve the quality of graduate medical education in New

Jersey was established in February, 1978. Public Law 1977, Chapter 390, (Appendix A) created a Graduate Medical Education Program (GMEP) under the aegis of the New Jersey State Department of Higher Education. This legislation was the culmination of six years of effort by the Department of Higher Education, the University of Medicine and Dentistry of New Jersey (UMDNJ) and an ad hoc Task Force on Graduate Medical Education to provide a program of state-wide leadership and coordination plus a funding mechanism to promote high quality residency training relevant to the physician manpower needs of the state.

To assist in the development of the Graduate Medical Education Program, the Advisory Graduate Medical Education Council (AGMEC) was created, responsible to the State Board of Higher Education. Chaired by the President of the UMDNJ, the Council is composed of representatives of the following:

- University of Medicine and Dentistry of New Jersey
- New Jersey Hospital Association
- Association of Hospital Medical Education of New Jersey
- Medical Society of New Jersey
- New Jersey Association of Osteopathic Physicians and Surgeons
- New Jersey State Department of Health
- New Jersey State Department of Higher Education
- New Jersey State Department of Human Services
- New Jersey State Board of Medical Examiners
- Three consumer representatives of the public (appointed by the Governor)
- One physician currently enrolled in a graduate medical education program.

As a broadly constituted body representing a wide array of affected interests, the AGMEC is intended to responsibly approach its legislated mandate from a balanced perspective. The AGMEC specifically is charged with advising the Board of Higher Education and the Chancellor in the following areas:

- Planning for the development and implementation of GME programs in the state;
- Determining the medical manpower needs of the state's citizens;
- Recommending the specialty and geographic areas in need of GME program development;
- Determining the number and type of GME programs which should be in particular hospitals in relation to total state needs;
- Reviewing and making recommendations concerning hospital applications for seed money grant support of residency training programs; and
- Addressing issues of financing and quality in New Jersey GME programs.

Only programs that are formally accredited and which possess medical school affiliations are eligible for GMEP seed funds. Funding priority is accorded hospital GME programs situated in medically underserved inner-city and rural areas. Based on physician manpower data assembled by the Department of Higher Education, the AGMEC has targeted primary care residency programs, and the development of psychiatry and geriatric care components within these programs, as priority need areas for providing seed money grants to hospitals for the development or enhancement of residency training programs in the state. The AGMEC concluded that primary care physicians will increasingly require training in psychiatry in order to better address the mental health needs of patients, especially as these disorders relate to existing conditions or treatments. The AGMEC also recognized the need for physician training in aspects of geriatric care since older persons (over age 65) possess unique health care needs and, according to recent population studies, these individuals will comprise 13% of New Jersey's total population by 1990. Since its inception, the GMEP, based on AGMEC recommendations, has awarded seed money grants totaling $1.5 million for the development or enhancement of primary care residency programs in nineteen New Jersey hospitals. Of these, four primary care programs have received grants to develop psychiatry training components, while eight have been funded for the development of geriatric components within these existing residency programs. Program funds have partially defrayed the start-up costs of five new family practice residency programs; all of which serve medical manpower shortage areas.

The GMEP also conducts an annual survey of all the hospital residency programs in the state. A graduate medical education data base has been developed. It includes information on types of residency programs offered by each teaching hospital, number of enrolled residents by year of training, medical school status of residents (USMG, USFMG, AFMG), number of programs by specialty, etc. This information, together with the Department of Higher Education's medical manpower projections, is instrumental to AGMEC in assessing the physician training needs of the state by specialty and geographical area.

In addition, there are a number of important trends and concerns that require a statewide mechanism to carefully and reliably monitor New Jersey's GME programs on an ongoing basis and to plan appropriate initiatives and recommendations for improvement. Several GME issues will be discussed in considerable detail in subsequent sections of this paper. These are as follows:

- The capability of GME programs to address the state's projected manpower needs;
- Persisting maldistribution of physicians throughout the state;
- Excessive reliance on USFMG and AFMG physicians in residency training programs in the state;
- Provision of a stable base of funding for GME; and
- Improvement of analytic procedures related to determining the cost of GME and designing appropriate reimbursement practices.

GME PHYSICIAN TRAINING CAPABILITY IN NEW JERSEY

To appropriately examine the adequacy of the GME physician training capability of the state, the future need for physicians in New Jersey in desired specialty and geographic areas must first be identified. In identifying this need, other factors affecting physician supply also will be considered. These include the number of medical school graduates entering and completing GME programs, the number and scope of GME program offerings by specialty and geographic area, the median age of physicians practicing in the state as well as physician death and retirement rates.

Physician Manpower Projections

In 1982, the Department of Higher Education (DHE) updated an earlier study of physician manpower for the Advisory Graduate Medical Education Council. In this study, separate models were developed to project future supply and demand for physicians by specialty and location into the year 1990. Specialty areas were grouped into four broad categories: Primary Care, Medical Subspecialties, Surgical Specialties and Other Specialties. The future need for physicians was determined by subtracting the projected physician supply from the projected demand for physicians. Using 1979 physician supply data (the most recent available) provided by the New Jersey Department of Health, the DHE's supply projections are based upon historical growth rates in physician supply* for the state of New Jersey observed over a ten year period, 1970-1979. Since the growth rate so derived encompasses the total change in supply, it takes into account additions to the physician pool gained from growth in the number of medical school graduates nationwide and in the state, and growth in GME enrollment and graduates. It also reflects factors of attrition due to death, emigration and retirement. Table 1 shows the results of the supply projections for 1985 and 1990 for New Jersey by specialty. These data indicate that the total supply of physicians will increase from 13,360 in 1979 to approximately 16,500 in 1985 and 19,700 in 1990. This represents a projected 47% increase from the base year of 1979 to 1990, an average increase of 4.3% per year. The projections of demand are derived from a single regression equation. This multivariable regression model relates the dependent variable, the state's physician to population ratios by county, to the independent variables of permanent family income, median age of the population, and level of hospital services utilization. The regression was then applied to the observed 1979 base year physician manpower supply data to calculate future demand for 1985 and 1990. The results are presented in Table 2. The model projects a significant increase in demand for physicians from the observed 13,600 physicians in 1979 to 16,970 in 1985 and 19,920 in 1990. This is an increase of 49% over the 11 year projection period, an average increase of 4.5% per year.

*In this context, physician supply refers to the number of licensed physicians practicing in New Jersey as differentiated from the number of physicians that are licensed by the state but either are not practicing or are practicing elsewhere.

TABLE 1

PROJECTED SUPPLY OF PHYSICIANS IN NEW JERSEY
1979-1990

Specialty	Actual Supply 1979	Projected Supply 1985	Projected Supply 1990
Primary Care	6,380	7,920	9,560
General/Family Practice	2,270	2,850	3,440
Internal Medicine	1,980	2,460	2,960
Obstetrics/Gynecology	1,030	1,260	1,530
Pediatrics	1,105	1,350	1,630
Medical Subspecialties*	1,160	1,520	1,890
Surgical Specialties	2,535	3,080	3,600
General Surgery	895	1,080	1,260
Ophthalmology	440	520	610
Orthopedic	415	490	580
Other Surgical Specialties**	785	990	1,150
Other Specialties	3,285	3,980	4,650
Anesthesiology	535	640	740
Pathology (General and Forensic)	435	520	600
Radiology (General and Therapeutic)	485	600	700
Psychiatry (Incl Child Psychiatry)	1,035	1,270	1,490
Other Specialties/Unspecified***	690	950	1,120
Total Licensed Physicians****	13,360	16,500	19,700

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* Medical Subspecialties: Allergy, Cardiovascular Diseases, Dermatology, Gastroenterology, Pediatrics-Allergy, Pediatrics-Cardiology, Pulmonary Diseases.

** Other Surgical Specialties: Neurological, Otolaryngology, Plastic Surgery, Colon and Rectal Surgery, Thoracic Surgery, Urology.

*** Other Specialties: Aerospace Medicine, Occupational Medicine, Neurology, Physical Medicine and Rehabilitation, General Preventive Medicine, Public Health, Other-Unspecified.

****Total may not be equal to sum of groups due to independent rounding.

TABLE 2

PROJECTED DEMAND FOR PHYSICIANS IN NEW JERSEY
1979-1990

Specialty	Actual Supply 1979	Projected Demand 1985	Projected Demand 1990
Primary Care	6,380	8,120	9,570
General/Family Practice	2,270	2,920	3,450
Internal Medicine	1,980	2,520	2,970
Obstetrics/Gynecology	1,030	1,300	1,530
Pediatrics	1,105	1,380	1,620
Medical Subspecialties*	1,160	1,610	1,890
Surgical Specialties	2,535	3,120	3,610
General Surgery	895	1,120	1,310
Ophthalmology	440	540	640
Orthopedic	415	510	600
Other Surgical Specialties**	785	950	1,060
Other Specialties	3,285	4,120	4,850
Anesthesiology	535	760	890
Pathology (General and Forensic)	435	540	630
Radiology (General and Therapeutic)	485	690	810
Psychiatry (Incl. Child Psychiatry)	1,035	1,250	1,470
Other Specialties/Unspecified***	690	880	1,050
Total Licensed Physicians****	13,360	16,970	19,920

* Medical Subspecialties: Allergy, Cardiovascular Diseases, Dermatology, Gastroenterology, Pediatrics-Allergy, Pediatrics-Cardiology, Pulmonary Diseases.

** Other Surgical Specialties: Neurological, Otolaryngology, Plastic Surgery, Colon and Rectal Surgery, Thoracic Surgery, Urology.

*** Other Specialties: Aerospace Medicine, Occupational Medicine, Neurology, Physical Medicine and Rehabilitation, General Preventive Medicine, Public Health, Other-Unspecified.

****Total may not be equal to sum of groups due to independent rounding.

When the physician supply and demand data are taken together, the projected increases for supply tend to balance those for demand. As found in Table 2, the difference of 220 between the projected 1990 demand and supply figures for total physicians can be considered insignificant given the imperfections inherent in the use of projection methodology. Therefore, given these considerations, it appears that the state's projected physician supply and demand will be in near equilibrium by 1990.

Comparison of Projections to Actual Supply

Given the significance of the implications of the physician manpower projections on the future direction of the state's graduate medical education efforts, it is imperative to test the predictive power of the manpower projection model. The DHE's physician manpower projections were

TABLE 3

A COMPARISON OF DHE PROJECTED 1981 PHYSICIAN SUPPLY WITH ACTUAL PHYSICIAN SUPPLY IN NEW JERSEY, DECEMBER 31, 1981

Specialty	DHE* Projection for 1981	1981 AMA and AOA Survey
Primary Care	6,888	7,445
Medical Subspecialties	1,280	1,023
Surgical Specialties	2,728	2,914
Other Specialties	3,524	3,991
Total Licensed Physicians	**14,420**	**15,373****

* 1981 data are extrapolated from the 1979 actual and 1985 projected information in Table 1. Data include M.D.s and D.O.s.

**Includes 14,273 M.D.s and 1,100 D.O.s. The M.D. data are broken down by specialties but D.O. data are not. The allocation of D.O.s into the four specialty categories is accomplished in the following manner: 990 (90%) into primary care (percentage cited in 1979-80 AOA Yearbook), the remaining, 110 are divided among the three specialties according to observed M.D. distribution: 14 (12.7%) into Medical Subspecialties; 40 (36.4%) into Surgical Specialties; and 56 (50.9%) into Other Specialties.

based on actual 1979 physician supply data for the state obtained from the Department of Health (DOH). Since updated data were not available from the DOH, similar, although not precisely equivalent, data were obtained from AMA and AOA sources. In Table 3, 1981 physician supply data (the most recent available) for New Jersey, taken from the American Medical Association's Physician Characteristics and Distribution in the U.S., 1982 Edition, and the American Osteopathic Association's 1981-82 Yearbook and Directory of Osteopathic Physicians, are compared with the DHE projected physician supply data for 1981, where the 1981 data were extrapolated from the 1979 actual data contained in Table 1. While AMA data list totals for M.D.s by specific specialty areas, the AOA provides only D.O. totals by state. For comparison with DHE data, the D.O. total for New Jersey was apportioned into the four specialty categories presented in Table 3 according to observed physician distribution patterns. (See footnote in Table 3 for a description of the approach used.) It should be noted that the actual physician supply data obtained via AMA and AOA surveys are approximately 6.6% higher than the DHE projected physician supply for 1981. However, this difference may be explained by the following factors:

- The AMA and AOA survey data reflect physician headcounts while the DHE projections are full-time equivalents (FTE). When the headcount survey data are converted to FTE,* the adjusted AMA/AOA actual FTE physician supply is 14,678, which is only 258, or 1.8%, higher than the DHE projected supply.

- The DHE projected physician supply may be somewhat underestimated because of lower death and retirement rates associated with a younger physician pool. Physicians as a group are getting "younger", both in the state and for the nation as a whole. This phenomenon is directly related to the extraordinary rate of growth of the profession in recent years due primarily to rapid expansion of medical school enrollments during the last two decades. In 1981, the average age of the New Jersey M.D. was 47.5, the national average was 46.5. Over 60% of M.D.s are under age 55 in both New Jersey and the nation as a whole. A similar situation exists in the osteopathic profession. The 1979 average age of D.O.s of 48.2 is expected to drop to 43.1 by 1990.

- The significant growth in the state's GME system of residency and fellowship programs is another important factor contributing to growth in the state's pool of practicing physicians.

*The adjustment is based on the DHE's experience with the 1979 actual data. The actual 1979 total of physicians practicing in New Jersey was 13,992, of which 12,725 were full-time and 1,267 were part-time practicing physicians. Assuming that two (2) part-time physicians are approximately equivalent to one (1) full-time physician, the 1979 actual FTE physician supply was 12,725 + (1,267 x 0.5) = 13,360. The actual-to-FTE conversion factor is, thus, 13,992/13,360 =0.9548. Using that factor, the 1981 actual of 15,373 physicians obtained from AMA and AOA surveys is converted to 14,678 FTE physicians.

Based on the above analyses, the DHE's projected physician supply for 1981 is remarkably close to actual supply and the slight under-estimate (of about 258 physicians) can be readily explained in terms of a younger physician pool (i.e., lower attrition rate) and the growth in GME physician training programs. These analyses indicate that the physician supply in New Jersey can be expected to approach projected demand in the very near future, such that by 1990 the supply of physicians will very likely be in a state of equilibrium, if not abundance, with respect to demand for physician services. However, given that primary care services, especially in medically underserved areas, have been targeted by the GMEP as a training priority, the adequacy of physician manpower in this area should be monitored on an ongoing basis to assess the degree of continuing need.

GME Physician Training Capability

The size of the resident body and the breadth of residency training programs are important determinants of the size and growth of a region's physician supply. In comparison with a relatively lengthy history of graduate medical education in the United States, GME in New Jersey has enjoyed active participation for only a little over a decade. Today New Jersey ranks tenth in the nation in number of residency programs offered (following New York, California, Pennsylvania, Illinois, Texas, Ohio, Michigan, Massachusetts and Maryland) and ninth in number of participating residents. In academic year 1982-83, New Jersey GME programs enrolled 2,383 residents in 193 residency and fellowship programs offered through 38 institutions.

Table 4 shows the growth of all residents and first year residents, i.e., PGY-1 residents*, by broad categories of specialty during the period, 1979-80 to 1982-83. First-year position data are often used as trend indicators. It should be noted that although the first-year residents grew over 50% in this period, the total of residents enrolled in all postgraduate years increased about 21%. This indicates that the observed year-to-year growth in the total resident body is largely attributable to the significant growth in first-year residents admitted each year rather than to transfers into second and third year levels by physicians from out-of-state GME programs. Also, this trend suggests an improved capability of New Jersey GME programs to attract physicians for residency training, since the number of unfilled slots is relatively low (6-7%). Furthermore, although the observed three year total growth of over 50% in PGY-1 residents seems phenomenal, the largest growth occurred from 1979-80 to 1980-81. Thereafter, the rate of growth steadily declined with each subsequent year. This suggests that the period of explosive growth in the state's GME offerings is over and that the system is gradually approaching a relatively steady state.

*PGY-1 = Post-Graduate Year 1

TABLE 4

ALL RESIDENTS AND PGY-1 RESIDENTS, TOTAL AND BY SPECIALTY GROUPS 1979-80 TO 1982-83

Specialty	1979-80	1980-81	1981-82	1982-83	Growth in 3 Years
Primary Care					
All Residents	1,079	1,207	1,331	1,393	+29.1%
PGY-1 Residents	340	420	464	514	+51.2%
Medical Subspecialties*					
All Residents	100	147	135	164	+64.0%
PGY-1 Residents	---------- Not Applicable** ----------				
Surgical Specialties					
All Residents	422	392	359	385	-8.8%
PGY-1 Residents	68	99	104	106	+55.9%
Other Specialties					
All Residents	371	343	336	441	+18.9%
PGY-1 Residents	120	138	155	175	+45.8%
Total					
All Residents	1,972	2,089	2,161	2,383	+20.8%
PGY-1 Residents	528	657	723	796	+50.8%

* Survey results show that a number of Internal Medicine programs did not indicate subspecialty categories. As a result, it is suspected that the number of residents in the category Medical Subspecialties may be underreported, while the number of residents in Primary Care may be overreported.

**Residents training in medical subspecialty GME programs are generally beyond the PGY-1 level, since completion of at least one year of GME training is a usual prerequisite for participation in these GME offerings.

The most recent survey completed by the Graduate Medical Education Program (GMEP) for academic year 1982-83 showed that there were 193 GME training programs (categorical residency programs and subspecialty fellowships) with a total enrollment of 2,383 residents and fellows offered by 38 institutions throughout the state: 37 hospitals and the New Jersey State Department of Health (DOH). Reports received from GME program directors indicate that all of the state's residency training programs maintain medical school affiliations, either with the UMDNJ or out-of-state medical schools, and that the nature and scope of these affiliation arrangements vary widely. The Department of Health's GME program in Public Health had three residents in 1982-83 and is affiliated with Johns Hopkins University Medical School in Maryland.

Table 5 presents a detailed summary of the GME offerings sponsored by New Jersey hospitals (excluding DOH's Public Health program).* The table lists the number of GME residency and fellowship programs offered, the number of residency positions filled and the medical school affiliation(s) by hospital. In order to facilitate the analysis of the GME physician manpower training capability and availability of health services in various regions of the state, the hospitals are organized by Health Service Area (HSA) since the HSA region is commonly used as a geographic unit in health manpower studies. Figure 1 is a map of New Jersey delineating the five federally-designated HSA regions.

The hospitals of New Jersey offer a wide assortment of GME training opportunities by specialty area. The distribution of GME programs by broad specialty category is given in Table 6, with a more detailed listing found in Appendix B. Table 7 presents numbers of residents trained per year and by specialty area. Similar information by individual specialty category is found in Appendix C. Currently, the state GME network annually adds approximately 800 physicians through first-year positions. According to the array of GME program offerings and the number of residency positions available throughout the state, the present GME network, with continuing attention to primary care training considerations already targeted by the GMEP, appears adequate to meet the future physician manpower needs of the state.

As previously discussed, an overall abundance of physicians does not necessarily eliminate the problem of physician maldistribution, either by specialty or by geographical region. In New Jersey, for example, numerous communities have for years been designated by the U.S. Department of Health and Human Services (DHHS) as primary care health manpower shortage areas.

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* Table 5 does not list all New Jersey hospitals involved in GME training. Only those hospitals actually sponsoring GME programs are listed. Many of these hospitals affiliate with other hospitals for the purpose of providing additional training sites for residents and fellows. These affiliates include such hospitals as the Veterans Administration Medical Centers at East Orange and Lyons, Our Lady of Lourdes Hospital, the Medical Center at Princeton, etc.

TABLE 5

NEW JERSEY HOSPITALS SPONSORING GME PROGRAMS
IN 1982-83 BY HSA REGION

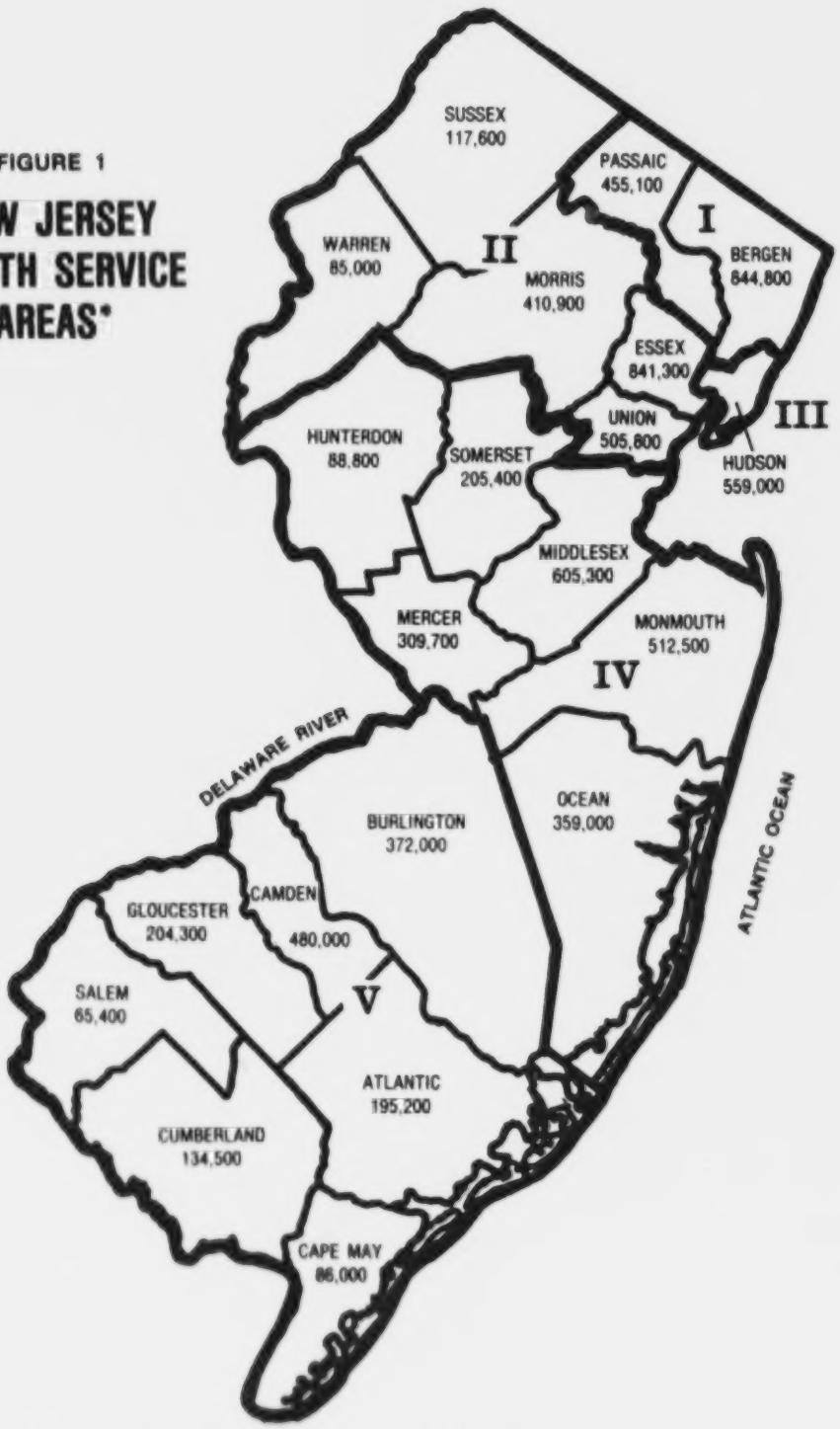
Hospital	Number of GME Programs	Number of Residents/ Fellows	Affiliated Medical Schools
HSA I (population: 1,299,900)			
Bergen Pines County Hospital	5	52	UMDNJ-NJMS
Englewood Hospital	1	34	Cornell
Saddlebrook General Hospital	3	11	Philadelphia, New York and New England Colleges of Osteopathic Medicine
Hackensack Hospital	6	51	UMDNJ-NJMS
St. Joseph's Hospital & Med. Ctr.	13	106	UMDNJ-NJMS
Total HSA I	28	254	
HSA II (population: 1,960,600)			
Memorial General Hospital	4	15	NY College of Osteo Med.
Mountainside Hospital	2	39	UMDNJ-NJMS
Muhlenberg Hospital	1	27	UMDNJ-RMS
St. Elizabeth Hospital	1	23	UMDNJ-NJMS
United Hospitals	3	42	UMDNJ-NJMS
Morristown Memorial Hospital	6	75	Columbia
Overlook Hospital	7	87	Columbia
Newark Beth Israel Hospital	12	75	UMDNJ-NJMS
St. Barnabas Hospital	12	118	UMDNJ-NJMS, Albert Einstein, Columbia, Mt. Sinai, NYU, Jefferson, Cornell
UMDNJ-University Hospital	27	507	UMDNJ-NJMS
Warren Hospital	1	10	Columbia
St. Michael's Medical Center	8	91	UMDNJ-NJMS
Total HSA II	84	1,109	

TABLE 5 - continued

Hospital	Number of GME Programs	Number of Residents/ Fellows	Affiliated Medical Schools
HSA III (population: 559,000)			
Jersey City Medical Center	4	49	UMDNJ-NJMS
St. Mary Hospital	1	22	UMDNJ-NJMS
Total HSA III	5	71	
HSA IV (population: 2,080,700)			
Helene Fuld Medical Center	1	27	Hahnemann
Hunterdon Medical Center	1	16	UMDNJ-RMS
JFK Medical Center	1	18	UMDNJ-RMS
Jersey Shore Medical Center	5	55	UMDNJ-NJMS
Perth Amboy General Hospital	2	38	UMDNJ-RMS
Somerset Medical Center	1	21	UMDNJ-RMS
St. Francis Medical Center	2	45	Hahnemann
Monmouth Medical Center	10	128	Hahnemann
St. Peter's Medical Center	4	52	UMDNJ-RMS
Trenton Psychiatric Hospital	1	12	UMDNJ-RMS, Hahnemann
Middlesex General-University Hospital	20	254	UMDNJ-RMS
Total HSA IV	48	666	
HSA V (population: 1,537,800)			
Ancora Psychiatric Hospital	1	11	Hahnemann
Atlantic City Medical Center	1	20	Hahnemann
Memorial Hospital of Burlington County	1	2	UMDNJ-RMS
Deborah Heart & Lung Center	2	28	UMDNJ-RMS
West Jersey Hospital System	1	16	University of Pennsylvania
Cooper Hospital/University Medical Center	7	83	UMDNJ-RMS
Kennedy Memorial Hospitals-University Medical Center	14	120	UMDNJ-SOM
Total HSA V	27	280	
TOTAL ALL HSAs (population: 7,438,000)	192	2,380	

FIGURE 1

NEW JERSEY HEALTH SERVICE AREAS*



*DESIGNATED IN THE "FEDERAL REGISTER" SEPTEMBER 2, 1975

TABLE 6

DISTRIBUTION OF RESIDENCY PROGRAMS AND RESIDENTS
BY SPECIALTY AND HSA REGION, 1982-83

Specialty	HSA I	HSA II	HSA III	HSA IV	HSA V	Total All HSAs
Primary Care						
Programs	8	22	2	19	10	61
Residents	158	597	65	429	144	1,393
Medical Subspecialty						
Programs	10	24	3	8	5	50
Residents	18	83	6	24	33	164
Surgical Subspecialty						
Programs	3	14	0	9	6	32
Residents	10	229	0	103	43	385
Other Specialty						
Programs	7	24	0	13	6	50
Residents	68	199	0	114	60	441
Total						
Programs	28	84	5	49	27	193
Residents	254	1,108	71	670	280	2,383

TABLE 7

DISTRIBUTION OF RESIDENTS BY SPECIALTY CATEGORY AND BY PGY
1982-83

Specialty	PGY-1	PGY-2	PGY-3	PGY-4	PGY-5	Total
Primary Care	514	453	365	53	8	1,393
Medical SubSpec.	1	2	5	82	74	164
Surgical Specialty	106	105	65	55	54	385
Other Specialty	175	133	80	43	10	441
Total	796	693	515	233	146	2,383

The DHHS annually reviews the list of health manpower shortage areas and revises the list as necessary. The most recent update, in 1983, revealed that almost all of the communities previously identified as health manpower shortage areas retained these designations. This is an important issue which must be taken into consideration in devising policy measures which may ultimately affect physicians' specialty and locational distribution. Of the 20 federally designated primary care manpower shortage areas in New Jersey, three are in HSA I, six in HSA II, one in HSA III, three in HSA IV and seven in HSA V. A detailed listing of these shortage areas is presented in Appendix D.

Since New Jersey hospital-based GME offerings are located throughout the state, the state's capability to address medical care needs of the entire state is greatly enhanced. Resident physicians provide patient care services while in training and are likely to remain in the state to practice after completion of their GME training. Residency programs offered by hospitals in underserved areas increase the prospect that these physicians will remain to practice in these areas. As inducements to remain in these service areas, an increasing number of hospitals are assisting their residents to establish permanent practices by providing loans at competitive interest rates, office space, group practice opportunities, etc.

In summary, the state's projected supply of physicians can be anticipated to grow sufficiently to meet overall demand for physician manpower by 1990. The substantial growth in residency training observed at the beginning of the decade has enabled the state's GME system to achieve the necessary capacity to train and produce an adequate number of physicians to address the state's overall demand for physicians. Expecting to attain this favorable GME physician training capability, greater attention must be paid to monitoring any further expansion in graduate medical education programs in the state.

Recommendation 1

The state's GME training capacity, currently established at an overall total of approximately 2,400 positions, should be expanded only if adequate funding is available, appropriate standards of quality can be assured, and a need for additional training opportunities is demonstrated. GME programs should be monitored, on a regular and continuing basis, in order to promote responsiveness to changing physician manpower requirements by specialty and geographic area and to assure program excellence.

Monitoring of the capability of the state's GME system to train needed physician manpower should be entrusted to a state-level body composed of representatives of a wide range of affected interests and a number of public representatives to ensure that decisions and recommendations with regard to state-level initiatives are rendered objectively.

The Advisory Graduate Medical Education Council is already established as the state's legislatively mandated body to provide statewide leadership to promote an effective network of hospital residency programs responding to state physician needs. Given its functions and responsibilities and its

broadly constituted membership, it is appropriate that this body monitor the physician training capability within the state, solicit appropriate input from all hospitals offering GME in the state, and issue timely recomdations regarding all aspects of graduate medical education in New Jersey.

Recommendation 2

The Advisory Graduate Medical Education Council (AGMEC) should monitor the size, distribution, quality and adequacy of GME programs statewide, and issue timely recommendations for GME program modifications (additions/ reductions) as indicated. The GME programs currently in place in the state appear adequate with regard to addressing future medical manpower needs. In light of an expected improvement in physician supply, hospital cost containment concerns, and the resource requirements needed to offer quality GME programs, unplanned GME program growth or modifications can no longer be considered in the state's interest.

Recommendation 3

The AGMEC should develop a tracking system, in cooperation with the State Department of Health (DOH) and the UMDNJ, to follow both UMDNJ graduates and all residents enrolled in New Jersey GME programs to determine actual practice specialties and locations and factors influencing these decisions. In addition, the AGMEC should continue to develop and, on an annual basis, update a suitable GME data base to monitor the adequacy of GME training by specialty and location as indicated by state medical care needs.

Recommendation 4

The Department of Health should maintain, update biennially, and make available to interested users in a timely fashion, the data base on physician manpower in New Jersey. Timely, accurate information on the current supply of physicians is central to long range planning regarding the overall need for physicians, their distributions by specialty and geographic location, and the graduate medical education opportunities needed to achieve desired results.

QUALITY OF GME PROGRAMS IN NEW JERSEY

In addition to the adequacy of GME training and distribution in the state, another important concern is the quality of GME training programs. Program quality is essential in order to recruit high caliber medical school graduates for residency posts and to provide competent and qualified physician manpower for the state. Two accepted measures or indicators of the quality of GME programs are an affiliation with a medical school and formal program accreditation. Medical school affiliation is viewed as one means to ensure the quality of residency training programs by increasing the training capabilities and faculty resources available for physician training. Additionally, various medical specialty certifying boards establish the essential educational criteria and training requirements for the accreditation of GME programs. The AGMEC requires both formal accreditation and medical school affiliation for GME programs to qualify for

Graduate Medical Education Program (GMEP) grant awards to support the development or enhancement of specific primary care training endeavors. Further, funding agencies generally specify formal accreditation as a qualification for hospitals to receive reimbursement for educational costs associated with their GME offerings.

As part of its charge, the GMEP regularly surveys GME programs in the state to obtain information on current GME offerings by hospital which is then published as a brochure, GME Opportunities in New Jersey, and distributed to medical students throughout the U.S. Listings also include information with regard to medical school affiliation and accreditation status of GME programs in the state. New Jersey GME programs maintain affiliations with either the UMDNJ or an out-of-state medical school. Of these 193 GME programs, 145 are affiliated with the UMDNJ medical schools. Each UMDNJ medical school site has a designated core teaching hospital. They are as follows:

- UMDNJ-New Jersey Medical School -- University Hospital
- UMDNJ-Rutgers Medical School, Piscataway -- Middlesex General-University Hospital
- UMDNJ-Rutgers Medical School, Camden -- Cooper Hospital/University Medical Center
- UMDNJ-School of Osteopathic Medicine -- Kennedy Memorial Hospitals-University Medical Center

The four UMDNJ core teaching hospitals offer a total of 68 GME programs, or about 35% of the total offerings in New Jersey. The remaining 77 GME programs (40%) affiliated with the UMDNJ are offered by 21 different hospitals. Some hospitals are considered UMDNJ major affiliates and others are classed as minor affiliates, depending on the degree of educational involvement, resource commitment, etc. The remaining 47 hospital-based GME programs (24%) available in the state maintain medical school affiliation with out-of-state medical schools (Table 5). More detailed information on the breakdown of residency training programs and positions by UMDNJ and out-of-state medical school affiliation status and by specialty is provided in Appendix E.

The reported total of 192 hospital-based GME programs includes categorical residency programs and fellowship training in various subspecialty areas (for example, cardiology, hematology, nephrology). Nearly all state GME programs are individually accredited or associated as a subspecialty training area with an approved residency program in internal medicine, pediatrics or surgery. Formal accreditation is available for only a few subspecialty areas. Presently, the ACGME provides separate program accreditation for nine subspecialties in internal medicine and three in pediatrics. Subspecialty training programs without separate formal accreditation must be offered in conjunction with an approved residency program.

Another general quality issue related to GME concerns the presence of substantial numbers of graduates of foreign medical schools in GME programs. The presence of a high proportion of graduates of foreign medical schools in some of New Jersey's GME programs has continued to cause concerns

regarding the quality of these programs as indicated by their apparent inability to attract graduates of U.S. medical schools. The primary basis for this concern is that the education and medical training of foreign medical graduates often do not reflect a standard of quality consistent with that of U.S. medical schools. Also, proficiency in English is problematic for some alien physicians. This presents a particular problem in that the ability of physicians to clearly and comfortably communicate with their patients and peers and to comprehend the cultural and environmental factors affecting successful diagnosis and treatment of patient disorders is essential to the provision of quality medical care.

New Jersey has historically relied on foreign medical school graduates, both U.S. citizens (USFMG) and aliens (AFMG), to staff its residency training programs. During the last decade, New Jersey consistently ranked first in the nation in terms of the percentage (60 to 70%) of its hospital residents who were USFMGs or AFMGs.

In spite of the increasing competition for residency training positions in GME programs, both in New Jersey and nationally, the enrollment of foreign trained graduates in the state has remained high. During the five-year period spanning 1978-79 to 1982-83, the USMG portion of the state's resident body has increased from only 31% to 40%, while the USFMG component has steadily increased from 13% to 29% and the AFMG share has declined from 56% to 31% (see Table 8).

TABLE 8

DISTRIBUTION OF RESIDENTS BY TYPE
(USMG, USFMG, AFMG) 1978-79 TO 1982-83

Year	1978-79	1979-80	1980-81	1981-82	1982-83
USMG					
Number	578	673	806	807	956
Percentage	30.9	34.1	38.6	37.3	40.1
USFMG					
Number	246	274	377	444	679
Percentage	13.2	13.9	18.0	20.5	28.5
AFMG					
Number	1,046	1,025	906	910	748
Percentage	55.9	52.0	43.4	42.1	31.4
Total					
Number	1,870	1,972	2,089	2,161	2,383
Percentage	100	100	100	100	100

The AFMG portion has remained high (31%) despite the passage of federal immigration legislation (P.L. 94-484) designed to stem their influx into the U.S. for GME training. It is postulated that the major reason why this legislation has not induced the expected dampening effect on the inflow of AFMGs into New Jersey is that most of the AFMGs continue to be able to come to the U.S. as permanent immigrants, through blood relatives, and, thus, bypass the laws which placed restrictions only on temporary workers with H visas and exchange visitors on J visas.

In 1982-83, an overwhelming majority (93%) of AFMG physicians in New Jersey GME programs held immigrant visas; among the PGY-1 alien FMGs, the percentage was over 94%. Additional information on the breakdown of GME residents by USMG, USFMG and AFMG categories and by specialty are provided in Appendix F. A detailed breakdown of each of the 37 hospitals' residents by USMG, USFMG and AFMG categories for each specialty category is provided in Appendix G.

In view of the fact that, nationally, the number of U.S. medical school graduates and the number of first year residency training positions have approached a 1:1 ratio, New Jersey's continued reliance on foreign medical school graduates (USFMG, AFMG) to fill its GME slots seems curious. Several possible explanations are relevant to this phenomenon:

- Before the establishment of the UMDNJ, most GME programs in New Jersey did not possess medical school affiliations. The state had difficulty attracting USMG physicians to its GME programs. This difficulty was largely attributed to the perception that lack of affiliation with a medical school suggested a substandard educational program. Since the late 1970s, increasing numbers of New Jersey GME programs have established formal medical school affiliations with outstanding medical schools. These affiliations are predominantly with the UMDNJ, but also include such out-of-state schools as Columbia, Hahnemann, Cornell and Pennsylvania. However, the state's traditional reliance on graduates of foreign medical schools to fill its GME programs may be a relatively fixed pattern, difficult to break, since the resulting image and perception of the state as receptive to foreign medical graduates is deeply rooted.

- Because of the relatively short history of the state's GME system, many residency training programs, especially the newly developed ones, require a period of time in which to establish themselves and acquire reputations as programs of high academic quality. A number of GME program directors have consistently indicated that the quality of their recruited residents has steadily improved over the last few years. Others have indicated that they have received more and more inquiries about their programs from graduates of excellent U.S. medical schools, suggesting that a perception of program quality and attractiveness with respect to GME in New Jersey is developing among USMG applicants.

- Several of the residency programs that recruit predominantly USFMG and AFMG physicians are primary care GME programs located in underserved inner-city or rural areas. Since a number of these programs are fully accredited, possess medical school affiliations

and talented faculty, it is far from conclusive that their inability to attract USMG physicians is due to substandard program quality. The greater likelihood is that these programs could benefit from more widespread publicity of their excellent training programs. Also, given their location in inner-city or rural areas, their competitiveness with other GME programs for American graduates is hampered by their lack of various attractive geographic, environmental, cultural and/or recreational inducements. Realizing these recruitment handicaps, several program directors report that they review applicants (USMG, USFMG, AFMG) with the aim of selecting the best available graduates for their programs. If faced with the prospect of selecting either borderline USMGs or the cream of FMGs in terms of indicators of academic ability and medical aptitude, they are drawn to the latter. Also, other factors are weighed in the selection process, such as the likelihood that the graduate will remain to practice in New Jersey, especially in the medically underserved area of the program.

- As indicated above, an overwhelming majority (94%) of the alien FMGs possess immigrant visas and most of them have blood relatives in New Jersey. This suggests the following: (1) they can stay in the U.S. if they choose to do so because of their permanent residency status; and (2) they will very likely stay in New Jersey to set up practice because it is the state with which they are most familiar and in which their relatives/sponsors live. The typical concern that AFMGs will return to their homeland after the GME training and hence that it is a waste of GME resources to train them does not seem to apply to the majority of AFMGs in New Jersey.

Finally, an important indicator of quality is available to assess USFMG and AFMG physicians. Specifically, these graduates must pass examinations conducted by the Educational Commission for Foreign Medical Graduates (ECFMG) for certification in order to enroll in U.S. residency training programs. In addition, alien physicians must pass an English proficiency examination administered by the ECFMG. A new examination, for all foreign graduates, the Foreign Medical Graduate Examination in the Medical Sciences (FMGEMS), has been developed by the National Board of Medical Examiners (NBME) for the ECFMG. This revised examination will be virtually equivalent to the National Board Examinations, Parts I and II, required of USMGs prior to GME training. The new FMGEMS will be offered beginning in July, 1984. With this improved indicator of academic attainment, one can assume that USFMG and AFMG physicians can be better assessed for their individual academic and medical qualifications.

In view of these considerations, the presence of graduates of foreign medical schools does not necessarily hamper the quality of GME programs in New Jersey, primarily due to the safeguards built into the resident selection process. Many of the GME programs that predominantly recruit USFMG and AFMG physicians are primary care programs located in underserved inner-city or rural areas. Such programs have difficulty recruiting USMGs. Graduates of foreign medical schools, if properly screened and selected, can serve an important role by providing much needed health care demanded by various communities in the state, both during residency training and afterwards.

To summarize, it is reasonable to conclude that, as a late comer to undergraduate and graduate medical education, New Jersey has come a long way in a short time. The presence of 193 GME programs in 38 institutions is evidence of a commitment to provide a broad range of GME opportunities on the part of the UMDNJ, community hospitals, and others throughout the state concerned with the education of physicians and the provision of patient care. That programs have medical school affiliations and are accredited by the relevant national bodies indicates that quality programs are a top priority among program directors and faculty. That it takes a long time for a reputation for quality to become widely known throughout the country is not unusual or cause for undue concern. The course of GME in New Jersey charted thus far provides a solid foundation for further significant achievements in the future. National recognition for quality GME in New Jersey will be an inevitable consequence of a coordinated effort to continually monitor and improve the state's existing system.

Recommendation 5

The AGMEC should continue to exercise its responsibility to monitor GME program quality in New Jersey and to promote activities and program improvements which will enhance program quality and reputation. Careful attention should be paid to updating and verifying the accreditation status and medical school affiliations of all residency programs. Criteria of program quality should be continually refined and updated. Residencies which rely predominantly upon USFMGs and AFMGs to fill their positions should be encouraged and supported in their efforts to enhance and publicize program quality such that these programs become more attractive to graduates of U.S. medical schools.

ISSUES IN FINANCING GRADUATE MEDICAL EDUCATION

In addition to the issues of the numbers and the specialty distribution and geographic locations of physicians which the residency system produces, difficult questions have arisen in recent years regarding the financing of graduate medical education. Within the broad context of rising health care costs in general and a particularly sharp increase in hospital costs, growing concern among education and health policy makers, health care providers, and consumers has focused on the expenses associated with graduate medical education activities. Initial attempts to address the fundamental issues of cost determination and financing responsibilities for residency training have been made at the national level by such groups as the Graduate Medical Education National Advisory Committee of the U.S. Department of Health and Human Services (DHHS), the Institute of Medicine (IOM) of the National Academy of Sciences, and the Council of Teaching Hospitals (COTH) of the Association of American Medical Colleges (AAMC). A number of important issues in financing graduate medical education have been identified. The clarification of these issues is essential for decision makers, at both the state and national levels, to plan an equitable system for financing GME and to promote the overall goal of providing accessible, high quality health care at reasonable cost to the people of New Jersey and the nation.

In this section several general issues relevant to the financing of graduate medical education are discussed. A number of proposed methods for estimating costs of GME are described and analyzed in conjunction with the difficulties inherent in this process. Sources of current financial support for GME are presented with a description of New Jersey's implementation of a model system of hospital reimbursement based on Diagnosis Related Groups (DRG) and utilizing a prospective payment mechanism. The DRG system is discussed in relation to cost containment issues, methods for determining and reporting GME costs and implications for future GME support. Finally, several alternative financing strategies are explored and considered with regard to effects on the quality of education and patient care provided through the GME process.

General Issues in Financing GME

The most significant general issues regarding the financing of graduate medical education are the same issues which arise with respect to financing education in general, namely: 1) How much does it cost to provide the education? 2) Who benefits, both directly and indirectly, from the education? and 3) Who should pay the costs of the education? Ordinarily, in assessing costs of education and allocating the payment of these costs to the recipients of the educational benefits, fairly straightforward analyses can be made. Unfortunately, this is not the case for graduate medical education.

First, there is no general agreement regarding the costs which are to be specifically considered as those of graduate medical education. In addition, once some determination is made of which costs to include, adequate data are frequently not available. Second, inasmuch as the graduate medical education process is based upon direct student involvement in the diagnosis and treatment of patients within a hospital or clinic setting, provision of patient care is an integral part of the learning experience. Therefore, determining which costs are education and which are patient care becomes problematic.

In addition, there are multiple beneficiaries of GME, physician residents, patients, undergraduate medical students, etc., in addition to the overall benefits to society from the medical services provided by the broad spectrum of primary care and specialist physicians trained in the graduate medical education system. It is extremely difficult to quantify the proportional benefits each receives from the total system of GME.

The determination of educational costs is complicated by the joint production nature of the GME process. Cost is the quantity of inputs or resources required to produce a desired output or product. In the case of graduate medical education it is difficult to assess the cost of education alone, since there are multiple outputs associated with the educational process and a variety of resources is required to sustain the process. Residency training typically occurs within a hospital and is integrated with the patient care, research, other educational, and public service production activities of the hospital as an institution. Therefore, while medical specialists constitute one identifiable output of the graduate

medical education process, other outputs include patients cared for, research conducted, other health professionals educated, and public service activities performed. In economic theory, such a process is called joint production; multiple products are produced together in such a way that it becomes extremely difficult to allocate unambiguously the total cost of production to the individual products. Based on available evidence, separating educational from patient care costs appears to be a largely arbitrary process due to a variety of factors including the lack of a uniform hospital accounting and cost reporting system, and the joint production nature of the residency training process.

Costs of GME

There are a variety of costs associated with GME hospital training programs. The GMENAC Technical Panel on Financing (1980) reported that GME total costs consist of three components: (1) the stipends and fringe benefits paid to residents and fellows, (2) direct and indirect educational cost factors, and (3) costs of ancillary services associated with the teaching function.

The most visible of these cost elements are the stipends and fringe benefits paid to residents and fellows. According to a 1976 study conducted by the Institute of Medicine, these costs comprise more than 5% of total costs to teaching hospitals. This same study estimated that the total costs attributable to GME, other than faculty salaries, constituted 6.5% of hospital total costs.

Educational cost factors are categorized as direct and indirect. Direct costs include payments to teaching physicians and other faculty, administrative services allocated to GME, and library and audiovisual centers. Indirect costs consist of depreciation of buildings and equipment, maintenance expenses, laundry, etc. which can be allocated to GME cost centers. Data limitations due to hospital accounting and cost reporting systems prevent a clear and reliable identification of these costs associated with the GME training function.

In addition, data on payments to teaching physicians are frequently difficult to clearly ascertain due to the complexity and variety of compensatory relationships. Some faculty are salaried by medical schools or by hospitals, while other teaching physicians are compensated from their private practices and may donate their teaching services. Due to the complex nature of these compensatory relationships, teaching hospitals may not possess a complete accounting of these expenditures for teaching physicians.

The alleged costs of hospital ancillary services, such as laboratory and other diagnostic tests ordered by residents and teaching physicians primarily for training purposes, represent another difficult cost component to determine. Generally, these costs are unknown and cannot be reliably separated from patient care costs or measured against benefits accruing to patients and overall patient care. There are claims that ancillary service costs are higher in teaching hospitals than in non-teaching institutions. Assertions of this sort must be weighed against such critical considerations

as the greater tendency for teaching hospitals to be tertiary care centers providing highly sophisticated, technological treatments for patients with more complex and severe illnesses and care requirements.

One method for estimating costs related to GME programs in teaching hospitals is the total expenditures approach. Using this method, GME costs are determined by totalling all costs associated with residency training programs. As noted earlier, the effectiveness of this type of approach is severely hampered by data limitations. Specifically, detailed cost data for specific expenditures are not readily available and the diversity of hospital accounting procedures makes systemwide cost aggregation problematic. Further, this approach ignores the issue of joint production costs and outputs in GME.

Other methods, such as the replacement cost or incremental cost of care approaches, attempt to determine GME costs either by estimating the net cost to an institution of replacing residents with other resources or by estimating the increased costs of patient care which can be attributed to the presence of residency programs in the hospital. The replacement cost method is, of necessity, hypothetical in nature. The resulting estimates are accomplished through a largely subjective process, and cannot be considered as fully reliable.

Furthermore, the lack of a reliable, commonly accepted method for determining the costs of GME programs hampers the corollary development of an equitable and efficient funding mechanism. In order to ensure the quality of GME programs, it is essential to identify a stable means of long-term support which will finance the training of appropriate numbers of competent physicians in terms of both specialty area and geographic distribution.

Sources of Financial Support for GME

Physician residency training programs are currently financed from a number of revenue sources. As a rule, hospital revenues from all sources, with the exception of grants or gifts designated for specific purposes, are merged into the hospital's general operating fund and support the various programs of the institution. Standard hospital accounting techniques make a precise determination of sources of support for specific programs such as GME virtually impossible.

Compounding this difficulty is the variety of institutional ownership and medical school affiliations among teaching hospitals. These variables are important determinants of the sources of revenue available to the hospital, as well as the proportion of funds generated through patient care revenues, government appropriations, and other sources. Locally and state-owned hospitals as well as federal institutions such as Veterans Administration Hospitals, receive direct government appropriations to support their programs. Hospitals with major affiliations with medical schools may also receive substantial support through appropriations to the schools. Private hospitals and those with less comprehensive medical school affiliations, rely more heavily on patient care revenues for support of their programs.

The major component, comprising over three-fourths of the financial support for GME programs, is derived from income received from patient care reimbursement for services at teaching hospitals. Third-party payers have allowed GME-related expenses to be reimbursed on the grounds that these educational programs contribute to the overall quality of patient care and provide a significant portion of that care. In that most third-party payers do not require teaching hospitals to separately identify educational expenditures, these hospitals are reimbursed for the costs of house officers' stipend support from third-party revenues. To the extent that these educational costs contribute to higher premiums, third-party payers (e.g., Blue Cross, Blue Shield, Medicare, Medicaid) are particularly concerned about areas that are major teaching centers.

The per diem and ancillary costs of teaching hospitals are generally higher than such costs in non-teaching hospitals. Some analysts attribute this cost difference to the GME training function of the institution with certain services performed for the educational benefit of the residents. However, this analysis taken at face value is inadequate and shortsighted. The differences in case mix and complexity, plus level of care (tertiary vs. secondary), and often a higher rate of indigent care are widely thought to account for the higher costs of teaching hospitals. Further, another cost factor frequently overlooked concerning non-teaching hospitals is that their costs do not always reflect fees for physician services as these frequently are billed to patients directly by their attending physicians.

New Jersey recently instituted a new approach to the reimbursement of hospital patient care costs from third-party revenues. This new approach is a prospective payment mechanism based on Diagnosis Related Groups (DRG). An explanation of this system and its approach to funding GME program costs in New Jersey teaching hospitals follows.

Current New Jersey Reimbursement Practice

Since 1980, New Jersey has relied on Diagnosis Related Groups (DRG) to establish hospital reimbursement rates for hospital costs which include GME-related costs. The DRG reimbursement system is administered by the State Department of Health (DOH) under the overall authority of the State Hospital Rate Setting Commission. The DRG system establishes hospitals' budgets or payment rates on a prospective basis which is very different from retrospective programs, exemplified by conventional patient care reimbursement programs. Prospective reimbursement programs have recently gained support among federal agencies as a means to curb hospital costs. The traditional retrospective programs of hospital cost reimbursement typically determine final reimbursement for approved costs after services are rendered and costs are incurred. During the year, a hospital receives interim payments based upon its historical costs increased for projected inflation. A year-end adjustment reconciles projected and actual inflation rates. Many experts believe that retrospective methods are inherently inflationary because administrators are tempted to increase staff and hospital size beyond otherwise achievable levels, purchase expensive equipment, and provide specialized services regardless of their use.

Prospective reimbursement programs, on the other hand, establish reimbursement of approved costs before services are rendered and monies are expended. Hospitals, therefore, know the amount they will be paid before services are rendered. If the amount is subject to minimal year-end adjustments, administrators have an incentive to conserve resources because they are at risk if actual costs exceed the prospectively approved amount. The incentive is intensified if hospitals are allowed to retain any excess of the payment rates over actual costs, as is the case in New Jersey. Under the New Jersey rate-setting program, the amounts approved for inpatient care apply to all payers in order to avoid cost shifting among payers. Further, hospitals are paid an illness-specific flat amount that is set prospectively and is independent of the length of stay and services rendered; hospitals, hence, have a financial incentive to find the least costly treatment regimen. Such a payment scheme motivates hospitals to avoid excessive lengths of stay and excessive use of ancillary services because they automatically reduce revenue.

Under the New Jersey DRG reimbursement system, the degree to which a hospital's GME costs can be reimbursed depends on its teaching hospital classification. There are three classifications: major teaching, minor teaching, and non-teaching. Once classified by the DOH, the hospital is compared to its hospital peers (in the same category) in the determination of level of reimbursement. Definitions used by the DOH to classify hospitals are listed as follows:

1. Major teaching hospitals are defined as those hospitals which meet all of the following requirements:

    a. Four or more residencies approved by the Accreditation Council for Graduate Medical Education (ACGME) or American Osteopathic Association (AOA), of which at least two are in the following five clinical services:

        (1) Internal Medicine;
        (2) General Surgery;
        (3) Family Practice;
        (4) Pediatrics;
        (5) Obstetrics and Gynecology.

    b. A minimum of 35 full-time equivalent (FTE) residents in all approved residencies combined;

    c. Twenty full-time equivalent residents must be in the five clinical services listed in 1. a. (1) through (5) above, and half of these residents (at least 10) full-time equivalents must be in Internal Medicine and/or Family Practice.

2. Minor teaching hospitals are defined as those hospitals which meet all of the following requirements:

    a. Two or more residencies approved by the ACGME or AOA, of which at least one occurs in the following five clinical services:

(1) Internal Medicine;
(2) Family/General Practice;
(3) Pediatrics;
(4) Obstetrics and Gynecology;
(5) Surgery.

b. A minimum of 15 full-time equivalent residents in all approved residencies combined;

c. Nine full-time equivalent residents in the clinical services listed above, with at least five FTE in internal medicine and/or family practice. However, a hospital may also qualify as a minor teaching hospital if all 15 residents are in at least one ACGME/AOA approved residency program in a primary care field (family practice or internal medicine). Table 9 shows the DOH's current classification of all New Jersey hospitals.

TABLE 9

NEW JERSEY DEPARTMENT OF HEALTH
CLASSIFICATION OF HOSPITALS: MAJOR TEACHING,
MINOR TEACHING AND NON-TEACHING*

Major Teaching Hospitals

St. Francis Medical Center
Middlesex General Hospital
United Hospitals Medical Center
St. Michael's Medical Center
Jersey City Medical Center
Cooper Medical Center
Hackensack Hospital
John F. Kennedy Memorial
Muhlenberg Hospital
Monmouth Medical Center
St. Joseph's Hospital/Medical Center
Jersey Shore Medical Center
Overlook Hospital
St. Barnabas Medical Center
Morristown Memorial Hospital
Englewood Hospital
Newark Beth Israel Medical Center
St. Peter's Medical Center

Minor Teaching Hospitals

Bergen Pines County Hospital
Mountainside Hospital
Our Lady of Lourdes
St. Elizabeth Hospital
Raritan Bay Health Corporation (Perth Amboy)
Helene Fuld Hospital
Atlantic City Medical Center
Hunterdon Medical Center
St. Mary Hospital
John F. Kennedy Community Hospital
Somerset Hospital
Princeton Medical Center

Non-Teaching Hospitals

Alexian Brothers
Deborah Heart & Lung Center
St. Francis Community Hospital
William B. Kessler Institute
South Amboy Memorial Hospital
Riverside Hospital
West Essex General Hospital
Montclair Community Hospital
Southern Ocean County Hospital
Irvington General Hospital
West Hudson Hospital
Elmer Community Hospital
East Orange General Hospital
Christ Hospital
Walkill Valley Hospital
Palisades General Hospital
Greenville Hospital
Hamilton Hospital
Burlington County Memorial
Burdette Tomlin
Bayshore Community Hospital
West Jersey Hospital System
St. Mary's Hospital (Paterson)
Mercer Medical Center
Hospital Center at Orange
Millville Hospital
Riverside General Hospital
Elizabeth General Hospital
Greater Paterson General Hospital
Saddlebrook General Hospital
Passaic General Hospital
Dover General Hospital
Paul Kimball Hospital
Zurbrugg Memorial Hospital
Salem County Memorial Hospital
Beth Israel Hospital
Freehold Area Hospital
Community Memorial Hospital
Holy Name Hospital
Chilton Hospital
Pascack Valley Hospital
Bayonne Hospital
Barnert Memorial Hospital
Warren Hospital
Rahway Hospital
Hackettstown Community Hospital
Point Pleasant Hospital
Newcomb Hospital
Newton Hospital
Bridgeton Hospital
Columbus Hospital
St. Clare's Hospital
Underwood Memorial Hospital
Riverview Hospital
Clara Maass Memorial Hospital
Valley Hospital
Shore Memorial Hospital

* For a variety of reasons pertaining to either New Jersey Department of Health classification procedures or reimbursement practices, certain New Jersey hospitals that offer GME are not included in this DOH listing. These include University Hospital, the Veterans Administration Medical Centers at East Orange and Lyons, and psychiatric and specialty hospitals.

Source: New Jersey Department of Health, 1982.

Several points regarding the New Jersey DRG system in relation to GME cost reimbursement warrant further attention:

- According to the definition/criteria used to classify hospitals into three teaching categories, the presence of undergraduate clerkship programs apparently is not considered in determining a hospital's teaching status. In this regard, clear guidance should be provided to the hospital as to how to report separately undergraduate clerkship and GME program-related costs. However, the DOH's manual of Procedural and Methodological Regulations does not appear to provide clear instruction in this respect. In fact, available information suggests that hospitals may be reporting GME costs inconsistently as a group and may be reporting costs in inappropriate categories. It is uncertain whether GME costs should be totally reported under the RSD (Resident) or EDR (Education and Research) cost centers or in some proportional distribution. Likewise, it is unclear whether undergraduate clerkship program costs should be reported under the EDR or other cost centers. Furthermore, given this apparent uncertainty, verification of reported cost data for GME offerings is difficult at best.

  It is important that the regulations and instructions provided to hospitals regarding cost reporting be such that not only will hospitals know exactly how to report costs but that the reported data be easily verifiable. A system requiring consistent and uniform hospital cost accounting and reporting will facilitate analysis of GME and other costs across hospitals and the monitoring of cost savings or overruns.

- The present classification of hospitals into major, minor and non-teaching categories is not entirely satisfactory, and, by definition, appears to provide hospitals with incentives to add GME programs in order to qualify for a higher reimbursement rate by attaining a higher level of classification. For example, many hospitals are classified as "non-teaching". This nomenclature is confusing since a number of these hospitals are clearly engaged in GME activities. This group includes Memorial Hospital of Burlington County, West Jersey Hospital, Elizabeth General Hospital, Underwood Memorial Hospital, etc. Also, since the teaching hospital classification determines DRG rates, hospitals may perceive themselves in the position of "needing" to add GME programs in order to move from the non-teaching to minor or from minor to major categories to capture a higher reimbursement rate.

The problem is made even more serious by the relative ease with which a hospital can apply, through an appeal process, for approval for funding of either new programs or more residency positions. The only requirement for such approval is that the programs and slots are approved by ACGME or AOA accreditation agencies. If GME program growth is left unchecked with no attention to the impact on state physician needs, it could result in the uncontrolled growth of GME costs as well. However, arbitrary restrictions upon any hospital's ability to expand its GME programs simply on account of financial considerations could result in uncoordinated and counterproductive curtailment of

program growth and/or elimination of programs. Therefore, it is important that decisions regarding approval of residency programs and number of slots explicitly incorporate state-level manpower planning into the GME financing system.

- The problematic aspects of the definition/criteria used in classifying hospitals into three teaching groups is also evident from the procedure used by DOH to calculate University Hospital's reimbursement rate. By definition, hospitals in the same group are considered as peers for cost comparison and reimbursement purposes. Their operational costs are used to determine a group norm from which each hospital's reimbursement rate is derived. University Hospital's rate is derived from the major teaching hospital norm. However, its costs are not used to calculate this norm, since their inclusion would skew this group's norm considerably upward. Also, DOH does not include University Hospital in its listing of major teaching hospitals (Table 9). In this instance, the resulting concern is whether this method of rate calculation provides University Hospital adequate compensation.

  University Hospital is unique in a number of aspects. As the leading teaching hospital and tertiary care center in the state, its missions include education, research, and technology transfer in addition to patient care. It receives patients referred from areas across the state, many of whom are indigent, and provides a much wider range and scope of services. Its patients generally have more complex and severe disorders. As a result, the hospital's resource consumption is more intense than others with the same DRG classification. For example, University Hospital's patients often depend more completely on hospital staff for care needs, frequently respond to therapy at slower rates, and tend to have longer lengths of stay. Furthermore, because of its inner-city location and regional service commitment, University treats a disproportionately large number of indigent patients. Some of these patients apparently are turned away by other hospitals in the area and even by some suburban hospitals and sent to University Hospital.

  Rather than including University Hospital in the same category as other major teaching hospitals and comparing its costs with its "peers" for the determination of its DRG rate, it may be more equitable and more realistic to consider a separate, distinct category and DRG rate for this hospital in recognition of its special patient care, educational, and community service mission. The present rate-setting hospital procedures place the hospital at a clear financial disadvantage, resulting in large sums of non-reimbursable bad debts and non-reimbursable direct and indirect costs of education. The Hospital has argued that when it is compared to the appropriate peer group, other university hospitals across the country, its nursing costs and ancillary services clearly appear reasonable. Moreover, research findings indicate that when severity of illness is taken into account, well-run university hospitals are not significantly more expensive than either community or community teaching hospitals. The extra personnel in university hospitals apparently are necessary to the efficient and effective care of the more severely ill patients. The implication is

that if these patients are treated at other community hospitals, those community hospitals' average costs per DRG would eventually rise to the level of the teaching hospital, or even beyond, if the patients are to be cared for properly.

However, one must also consider that if the University Hospital (and possibly other UMDNJ core teaching hospitals) is put in a distinct category, sui generis, and allowed a higher DRG rate in recognition of its unique features, the higher rate charged to all payers could easily render the hospital noncompetitive with other health care institutions providing patient services at lower rates. This dilemma is difficult to resolve within the parameters of the present DRG payment system, but it is of sufficient importance to merit further consideration in order to provide equitable and adequate compensation to enable all hospitals within New Jersey's diverse network to effectively execute their respective missions.

Effects of Reimbursement Policies

With hospital cost containment an overriding consideration of public officials and major payers and purchasers of health care, the continued funding of GME through patient care revenues is coming under increasing scrutiny. However, any changes or potential reforms in the reimbursement mechanism regarding the funding of GME-related hospital costs must be carefully studied in terms of the resultant impact that such changes may have on physician manpower and health care services.

Changes in the system of reimbursement may result in far-reaching alterations in the supply and distribution of physicians. Since the number, type and structure of GME programs depend to a significant extent on financial factors, reimbursement policy changes can affect the availability of residency programs in different specialties. For example, training costs in excess of reimbursement are said to be higher for primary care residency programs that emphasize training in ambulatory settings. Current policies provide a higher rate of reimbursement for in-hospital services compared with ambulatory care services, for technology intensive patient services, and for care rendered in urban rather than rural areas. Thus, these reimbursement parameters provide incentives for hospitals to offer and physicians to select GME programs in non-primary care specialty and subspecialty areas and for physicians to practice in areas with a relatively high physician to population ratio. Further, hospitals in their efforts to cut or contain their operational costs might be disposed to discontinue primary care residency programs and shift available resources to specialty GME programs for which the reimbursement of program costs is more favorable.

However, since continued GME training of primary care physicians and the provision of primary care services in medically underserved areas are shared goals nationally and statewide in New Jersey, changes in current reimbursement policy could provide financial incentives for attainment of these goals by making these career choices more attractive to physicians. These policy goals could be served by modifying existing reimbursement mechanisms to provide more equitable reimbursement of medical services

provided by primary care physicians versus medical specialists and for patient care rendered in ambulatory settings versus inpatient facilities. A further incentive could be a compensatory factor for services of physicians practicing in designated medically underserved areas.

Alternative Financing Mechanisms

Several GME financing mechanisms have been proposed as alternatives or supplements to existing means of GME program support. A number are identified in the context of this discussion. However, in considering these alternatives it is of critical importance to note that the effectiveness of any GME financing mechanism rests squarely on a consensual definition of GME program costs and a uniform system of hospital accounting that ensures the reliability and validity of reported costs to facilitate their careful monitoring and analysis.

One financing option is to pay hospital GME costs from a separate fund or GME superfund. This superfund could be generated by governmental appropriation of tax dollars or possibly derived from a surcharge on payments for medical services. The utility of this type of funding mechanism seems most appropriate for encouraging specific policy goals or initiatives, rather than as an overall base of funding. In fact, the state's Graduate Medical Education Program (GMEP) provides funding in this manner and is designed to address specific goals. The GMEP awards short-term, seed money grants to hospitals to encourage the development of primary care residency programs, particularly in medically underserved areas. However, if total GME funds were appropriated in this fashion, the system could be extremely vulnerable to the vagaries of the political arena and the dynamics of the legislative appropriations process. Unless the uncertainty inherent in the latter process could be ameliorated, this method of financing GME would not provide the desired stable base of funding needed to ensure program quality and effectively address state medical care and education goals.

On the other hand, if the fund could be constituted from a payment surcharge on medical service reimbursement, it would at least be derived from a more stable, monetary base. With this type of financing mechanism for supporting total GME costs, a reliable means for determining appropriate GME costs is a prerequisite condition for establishing a mechanism to equitably distribute funds among hospital GME programs in the state. Such a fund would require skillful administration and the implementation of safeguards to avoid the development of a zero-sum situation concerning the diverse state network of hospital GME programs. While this funding mechanism possesses a number of inherent difficulties, its utilization merits further consideration.

Moreover, given that medical schools have been assuming larger roles in GME, it has been proposed that medical schools assume a greater portion of the obligation for financing GME programs to the extent of their involvement with their affiliated hospital residency programs. Many medical schools already contribute GME program support by providing faculty, salary support of program directors and other resources. Income derived from faculty practice plans could be used to support resident

stipends, GME faculty salaries or other related costs. Understandably, medical school resources are primarily committed toward the support of undergraduate medical education, faculty research and other related activities in keeping with their fundamental mission of physician preparation. However, it is because of this basic mission of physician training that medical schools increasingly are involved with GME. In this regard, it is fitting that these schools assume a portion of the financial responsibility for their affiliated GME programs.

In a similar fashion, several larger patient clinics allocate a portion of their patient revenues for support of resident stipends and other GME costs. While this type of program is not practical for all settings, it does shift the burden from hospital reimbursement sources to physician reimbursement. Overall, this situation would probably result in higher physician fees with no actual net savings in patient care costs.

In the final analysis, GME should optimally continue to be financed from multiple sources with the principal source being the general operating revenues of the teaching hospital. The financing of special initiatives, such as new and developing specialties or programs to achieve local or state objectives, should be encouraged and continued from grants from public or private sources or special appropriations from federal, state or local revenues. In addition, the special financial needs of teaching hospitals should be clearly delineated and recognized. Teaching institutions with a more complex case mix, a large number of indigent patients, and a significant volume of patient referrals from areas throughout the state should be subsidized at a rate sufficient to ensure the accomplishment of both their patient care and educational missions. Further, an efficient and cost effective means of financing GME programs must, of necessity, rely on a uniform system of hospital accounting including the reliable identification and reporting of GME costs.

Recommendation 6

The Hospital Rate Setting Commission should continue to authorize funding of hospital GME costs through the DRG system at a level sufficient to maintain GME program quality and to promote excellence. The Commission and the Department of Health should explore with all interested parties the availability of alternative supplemental financing mechanisms to enhance the base funding provided through patient care reimbursement.

Recommendation 7

The eligibility of hospital-based GME programs for reimbursement of GME-related costs should be determined by the Department of Health in cooperation with the Advisory Graduate Medical Education Council. The AGMEC should review both existing GME programs and requests submitted by hospitals considering additions or modifications to their GME offerings, in terms of both program quality parameters and impact on physician manpower needs and render recommendations to the DOH for its determination regarding eligibility for reimbursement of GME-related costs.

Recommendation 8

The Hospital Rate Setting Commission, in cooperation with the Department of Health and the Advisory Graduate Medical Education Council, should develop and refine reimbursement guidelines and procedures for hospital-based GME programs consistent with the policy guidelines proposed in this document.

Recommendation 9

The Hospital Rate Setting Commission, in conjunction with the Department of Health, should continue to approve reimbursement funds for GME-related costs only to those hospitals that conduct training activities in conjunction with formally accredited GME programs. The Department of Health also should require that GME programs possess medical school affiliations to qualify for reimbursement for educational costs. Information on formal accreditation and medical school affiliation of GME programs in the state will be maintained and updated by the AGMEC and provided to the DOH.

Recommendation 10

The Department of Health should refine hospital accounting and reporting procedures for educational costs. The Department should require hospitals to utilize a uniform accounting system for reporting costs related to GME training in order to ensure that hospitals throughout the state report and are reimbursed for legitimate GME-related costs in a consistent manner.

Recommendation 11

The Department of Health should refine the criteria defining categories of teaching hospitals to reflect more realistically both the diversity of program offerings and the resource requirements necessary to support both large and small teaching programs. Special consideration should be given to the establishment of a separate reimbursement category for core teaching hospitals of the UMDNJ to reflect the special tertiary care nature of their teaching, research, public service, and patient care missions.

Recommendation 12

The Hospital Rate Setting Commission, the Department of Health and third party payers should recognize GME training costs incurred in ambulatory settings and provide incentives through reimbursement policies and formulas for the support of primary care residency programs which utilize ambulatory facilities in the teaching and patient care process. The contributions of ambulatory care modalities to cost containment should be recognized and encouraged throughout the health care and medical education system.

SUMMARY CONCLUSION

State policy has emphasized the training of physicians in hospital GME programs in order to increase the supply of qualified physicians to provide needed medical care services to its citizens. Targeted areas of physician training have included the primary care specialties. Recently, special attention has been paid to providing training for primary care physicians in aspects of psychiatry and geriatrics. Emphasis has also been directed to supplying physicians for medically underserved areas of the state, mainly inner-city and rural locations.

Available data indicate that the growth of GME throughout the state in the last decade has been successful in increasing the available supply of physicians in New Jersey. The GME training system presently in place appears adequate to provide the needed physician manpower through 1990. Substantial further growth of hospital GME programs and related GME costs does not seem warranted in terms of projected state physician needs, except as indicated for primary care specialties and by geographical area. The medically underserved areas of the state persist.

Furthermore, to ensure the planning and maintenance of quality GME programs, hospitals must be able to rely on a stable, long-term means of financing that will provide adequate support to safeguard program quality. However, in order to ensure a cost effective network of GME programs, there must be a uniform system of hospital accounting and reporting of GME program costs together with a capability to verify GME cost center expenses reported by hospitals. In addition, funding regulations for support of GME costs should reflect consideration of program roles in relation to state physician manpower needs. Calculation of reimbursement rates for teaching hospitals should reflect the resource requirements necessary to support their missions and the care requirements for their respective patient populations.

In view of these considerations, the recommendations presented are intended to provide a framework for guiding the future course of GME in New Jersey. The overall aim is to maintain a network of diverse and varied GME programs, responsive to state medical care needs, that are cost effective while maintaining educational excellence and the quality of patient care.

REFERENCES

Accreditation Council for Graduate Medical Education, 1983-84 Directory of Residency Training Programs. Chicago: American Medical Association, 1983.

Advisory Graduate Medical Education Council of New Jersey, Graduate Medical Education in New Jersey, Opportunities: 1983-84. Trenton: New Jersey State Department of Higher Education.

Advisory Graduate Medical Education Council of New Jersey, Graduate Medical Education Survey: 1978-79 through 1982-83. Trenton: New Jersey State Department of Higher Education.

Financial Elements and Reporting Regulation (8:31B-4). Trenton: New Jersey State Department of Health, 1981.

Fruen, M.A. and Korper, S.P., "Issues in Graduate Medical Education Financing", Journal of Health Politics, Policy and Law, Volume 6, Number 1, Spring 1981, pages 87-97.

Graduate Medical Education, Present and Prospective -- A Call for Action. New York: Josiah Macy, Jr. Foundation, 1980.

Graduate Medical Education: Proposals for the Eighties. Washington, D.C.: Association of American Medical Colleges, 1981.

Grimaldi, P.L. and Micheletti, J.A., Diagnosis Related Groups: A Practitioner's Guide. Chicago: Pluribus Press, Inc., 1983.

Gross, M.L. and Masica, D.N. (Eds.), Proceedings: Emerging Problems in Graduate Medical Education. Washington, D.C.: U.S. Department of Health and Human Services, 1983.

Impact of Foreign-Trained Doctors on the Supply of Physicians. Hyattsville, MD: U.S. Department of Health and Human Services, 1983.

NRMP Directory - 1984 Match. Evanston, IL: National Resident Matching Program, 1983.

Office of Research and Manpower, Physician Need Projections by Specialty and Geographic Location for New Jersey: 1985-90. Trenton: New Jersey State Department of Higher Education, 1982.

Physician Characteristics and Distribution in the U.S., 1982 Edition. Chicago: American Medical Association, 1983.

Procedural and Methodological Regulation (8:31B-3). Trenton: New Jersey State Department of Health, 1982.

Report of the Graduate Medical Education National Advisory Committee, Volumes I-VII. Hyattsville, MD: U.S. Department of Health and Human Services, 1980.

State Summary Data on Physicians, 1981. Chicago: American Medical Association, 1983.

Steinwachs, D.M., et al., "Changing Patterns of Graduate Medical Education", New England Journal of Medicine, Volume 306, Number 1, January 7, 1982, pages 10-14.

Stimmel, B. and Graettinger, J.S., "Medical Students Trained Abroad and Medical Manpower", New England Journal of Medicine, Volume 310, Number 4, January 26, 1984, pages 230-235.

1981-82 Yearbook and Directory of Osteopathic Physicians. Chicago: American Osteopathic Association, 1981.

1983-84 Yearbook and Directory of Osteopathic Physicians. Chicago: American Osteopathic Association, 1983.

APPENDICES

APPENDIX A: LEGISLATION ESTABLISHING THE GRADUATE MEDICAL EDUCATION PROGRAM

CHAPTER 64H. GRADUATE MEDICAL EDUCATION

Section

18A:64H–1. Legislative findings and declarations.
18A:64H–2. Advisory graduate medical education council; establishment; purpose and functions.
18A:64H–3. Definitions.
18A:64H–4. Members; appointment; terms of office; vacancies; advisory committees; executive director and employees; reimbursement of expenses.
18A:64H–5. Duties of board of higher education.
18A:64H–6. Standards for qualification for participation by private nonprofit and public hospitals.
18A:64H–7. Standards for expenditure of funds.
18A:64H–8. Rules.

18A:64H–1. Legislative findings and declarations

The Legislature hereby finds and declares that:

a. There is need to establish State support for a system of graduate medical education;

b. There is at present a serious deficiency in the number of practicing primary-care (family practice, general internal medicine, general pediatrics) physicians in certain geographic areas and among certain specialty-care physicians in the State;

c. In recognition of the need to provide educational programs to provide more trained physicians for the State, the State, through the passage of the "Medical and Dental Education Act of 1970," P.L.1970, c. 102 (C. 18:64G–1 et seq.) has created and supports medical schools under the College of Medicine and Dentistry of New Jersey as a matter of public policy of the State;

d. In recognition of the State's concern with respect to health care needs, the State, through the passage of the "Health Care Facilities Planning Act," P.L.1971, c. 136 (C. 26:2H–1 et seq.) has mandated health planning, hospital and health related services in all public and private institutions as a matter of public policy;

e. The mechanism to provide programs and facilities for graduate medical education is intimately related to the provision of training programs by private nonprofit and public hospitals throughout the State. Thus, while the methodology for financing undergraduate medical education has been provided, the equally

important methodology for financing programs of graduate medical education is lacking;

f. Increasing financial limitations have made it extremely difficult for such private nonprofit and public hospitals to provide educational programs of high quality to attract graduates of the College of Medicine and Dentistry of New Jersey and other American medical schools. New Jersey residents are also forced to seek graduate medical education in out-of-state medical schools, such individuals rarely returning to practice their profession within the State; and

g. Financial aid to private nonprofit and public hospitals providing graduate medical education programs would additionally provide improvement of such institutions as high quality medical education centers and thereby serve to improve the retention rate of physicians within the State, and attract graduate physicians to nationally accredited graduate medical training programs, as well as to the practice of their professions within the communities served by such institutions.

L.1977, c. 390, § 1, eff. Feb. 23, 1978.

Senate Education Committee Statement

Senate, No. 1387—L.1977, c. 390

Graduate medical education (internships and residency training) in New Jersey is not centered in any single agency or institution. The responsibility is divided between medical schools, private and public hospitals, special committees, specialty boards and similar organizations and institutions. The result has been a variation in the quality of programs, a lack of coordination between such programs, and a maldistribution of resources in terms of actual State manpower needs. In the judgment of the Senate Education Committee, Senate No. 1387 will help remedy this situation, and thus insure quality medical care for the citizens of this State.

* * * * * *

FISCAL IMPLICATIONS

This bill does not call for any appropriations; however, it is anticipated that the Department of Higher Education will include a request for funds for administrative costs and possibly for the establishment of a pilot project in its Fy '78 budget proposal.

In assessing the fiscal implications of this legislation, there is a potential cost factor which should be noted. While the Advisory Council could accomplish many of the primary objectives of this program, including the establishment of goals and standards, the evaluation of programs, and the assessment of State manpower needs with relatively limited funding, graduate medical education is a necessary component of an effective health care delivery system for New Jersey, and a primary purpose of this legislation is to coordinate funds used to support graduate medical programs. Therefore, at some point in the future, if Federal and private sources are insufficient or not available, the Legislature may be called upon to make a decision regarding direct State funding of graduate medical education.

Based on current data, it is impossible to project the ultimate cost of such a program. According to data provided by the State Department of Health, the total nonreimbursed expenditure for research, education and resident salaries in 1976 was approximately $5 million; however, this is not an accurate reflection of the costs of graduate medical education, since the data includes all research and all health training programs, but excludes some costs directly associated with intern and resident training. Also, reimbursement rates vary according to specialty and are subject to periodic review and revision. In fact, one of the primary functions of the Advisory Council will be to develop the data necessary to determine program costs and appropriate support levels for the various specialties.

In this context, it should be emphasized that support of this bill does not imply an intention on the part of the Legislature to fully fund graduate medical education in New Jersey. Rather, the intent is to provide a mechanism for the channeling of such funds as may be available to the support of graduate training in those specialties such as family practice where there is a demonstrable State need.

* * * * * *

Title of Act:

An Act providing for the establishment of a Graduate Medical Education program. L.1977, c. 390.

Administrative Code References

Graduate medical education program, see N.J. A.C. 9:15–1.1 et seq.

Library References

Physicians and Surgeons ⇐4.
C.J.S. Physicians and Surgeons § 12.

18A:64H–2. Advisory graduate medical education council; establishment; purpose and functions

There is hereby established the Advisory Graduate Medical Education Council of New Jersey, which shall be responsible to the Board of Higher Education. The purpose of this council shall be to make recommendations for the support, through Federal, State and private funds, of graduate medical education programs in private nonprofit and public hospitals in the State, and to make recommendations for the development and implementation of new graduate medical education programs which will meet the needs of the citizens of the State. The functions of the council shall include, but not be limited to:

a. Obtaining and evaluating information concerning the graduate medical manpower needs of the citizens of the State;

b. Recommending standards and criteria for participation by private nonprofit and public hospitals in the State;

c. Reviewing individual institutional applications and recommending awards of support to particular institutions based on conformance with the identified needs of the citizens of the State and the standards and criteria recommended by the council;

d. Annually reviewing the educational programs provided by participating hospitals;

e. Annually reporting to the Governor and the Education Committees of the New Jersey Legislature on the council's activities pursuant to the provisions of this act.

L.1977, c. 390, § 2, eff. Feb. 23, 1978.

Statement: Committee Statement to Senate, No. 1387—L.1977, c. 390, see § 18A:64H–1.

Library References

Physicians and Surgeons ⇐1.
C.J.S. Physicians and Surgeons § 3 et seq.

18A:64H–3. Definitions

As used in this act:

a. "Council" means the Advisory Graduate Medical Education Council of New Jersey.

b. "Chancellor" means the Chancellor of Higher Education.

c. "Graduate medical education" means internship and residency programs fully or provisionally approved by either the Council on Medical Education of the American Medical Association and the appropriate physicians specialty board or the Office of Education of the American Osteopathic Association.

d. "Medical" and "physician" refer to doctors of medicine and doctors of osteopathy.

L.1977, c. 390, § 3, eff. Feb. 23, 1978.

Statement: Committee Statement to Senate, No. 1387—L.1977, c. 390, see § 18A:64H–1.

Library References

Physicians and Surgeons ⇐1.

C.J.S. Physicians and Surgeons § 3 et seq.
Words and Phrases (Perm. Ed.)

18A:64H–4. Members; appointment; terms of office; vacancies; advisory committees; executive director and employees; reimbursement of expenses

The council shall consist of 14 members, 10 voting members and four nonvoting members; four members of the council shall be appointed by the Governor and 10 shall be ex-officio members. The appointments shall consist of three representatives of the public and one student currently enrolled in a graduate medical training program; the appointed members shall be voting members of the council. The president of the College of Medicine and Dentistry of New Jersey, who shall serve as chair-person; a dean from one of the medical schools of the College of Medicine and Dentistry of New Jersey, to be selected by the president of the College of Medicine and Dentistry of New Jersey; the president of the New Jersey Hospital Association; the president of the Association of Hospital Directors of Medical Education of New Jersey; the president of the New Jersey Association of Osteopathic Physicians and Surgeons; the president of New Jersey Medical Society or their designated representatives shall be ex officio, voting members of the council. The Chancellor of Higher Education; the State Commissioner of Health; the president of the State Board of Medical Examiners and the Commissioner of the Department of Institutions and Agencies or their designated representatives shall be ex officio, nonvoting members. The appointed members shall serve for a 3-year term or until a successor is appointed. For those first appointed, two shall be appointed for a 1-year term; one shall be appointed for a 2-year term; and one shall be appointed for a 3-year term. Any vacancies in the voting membership other than by expiration of term shall be filled in the same manner as the original appointment but for the unexpired term only. To assist the council in carrying out the intent of this act:

a. The council may appoint advisory committees representative of the medical and health care professions, educators, and students, representatives of medical and health care facilities and consumers. The advisory committees shall provide advice and assistance to the council for the council's performance of its designated functions.

b. The council may employ an executive director and additional staff to provide expertise in the gathering and analysis of data and administration. The executive director shall have the right to speak on all matters at meetings of the council but shall have no vote. The council and the advisory committees shall serve without compensation, but shall be reimbursed for necessary expenses incurred in the performance of their duties.

L.1977, c. 390, § 4, eff. Feb. 23, 1978.

Statement: Committee Statement to Senate, No. 1387—L.1977, c. 390, see § 18A:64H–1.

Library References
Physicians and Surgeons ⇐1.
C.J.S. Physicians and Surgeons § 3 et seq.

18A:64H–5. Duties of board of higher education

The Board of Higher Education, upon the advice of the Advisory Council, with the concurrence of the Commissioner of Health, shall:

a. Plan for the development and implementation of graduate medical education programs in the State;

b. Set standards for qualification for participation by public and private nonprofit hospitals in the State;

c. Establish standards for the use and expenditures of funds appropriated pursuant to this act;

d. Determine the number and type of graduate medical education programs which should be supported in particular hospitals in relation to total State needs.

L.1977, c. 390, § 5, eff. Feb. 23, 1978.

Statement: Committee Statement to Senate, No. 1387—L.1977, c. 390, see § 18A:64H–1.

Library References
Physicians and Surgeons ⇐4.
C.J.S. Physicians and Surgeons § 12.

18A:64H–6. Standards for qualification for participation by private nonprofit and public hospitals

The standards established for qualification for participation by private nonprofit and public hospitals in the State under the provisions of the act, shall include, but not be limited to the following:

a. An educational plan and a training schedule by each hospital for each program for which it desires assistance under this act at the time of its application to the council, including definition of its affiliation relationship with a medical school.

b. The educational program of the hospital shall be determined to be one that will provide a high degree of academic excellence. The graduate medical training programs shall be approved fully or provisionally by either the Council on Medical Education of the American Medical Association and the appropriate physician specialty board or the Office of Education of the American Osteopathic Association.

c. The chief executive officer of each hospital or his designee shall be charged with the responsibility for coordinating and implementing the educational programs of the hospital with the council. One person whose qualifications shall be subject to the review of the council, and who must qualify for a medical school faculty appointment, shall be charged with directing each educational program in order for such program to receive funds provided by this act.

L.1977, c. 390, § 6, eff. Feb. 23, 1978.

Statement: Committee Statement to Senate, No. 1387—L.1977, c. 390, see § 18A:64H–1.

Library References
Physicians and Surgeons ⇐4.
C.J.S. Physicians and Surgeons § 12.

18A:64H–7. Standards for expenditure of funds

The standards for the expenditure of funds by private nonprofit and public hospitals pursuant to this act shall include, but shall not be limited to:

a. The relationship of the program to the graduate and undergraduate teaching programs of the College of Medicine and Dentistry of New Jersey and other United States accredited medical and osteopathic schools;

b. The hospital's need for added support for full-time hospital physicians in charge of services or departments maintaining approved graduate medical education programs;

c. The need for support of costs related to the training of graduate medical students;

d. The need for support of costs related to salaries of students enrolled in graduate medical training programs;

e. The need for support of traditional medical and audiovisual libraries necessary for graduate training programs at the hospital;

f. The need to encourage graduate training in those specialties demonstrated to have critical manpower shortages relative to the needs of New Jersey (for example, the current shortage of family physicians).

L.1977, c. 390, § 7, eff. Feb. 23, 1978.

Statement: Committee Statement to Senate, No. 1387—L.1977, c. 390, see § 18A:64H–1.

Library References
Physicians and Surgeons ⇐1.
C.J.S. Physicians and Surgeons § 3 et seq.

18A:64H–8. Rules

The Board of Higher Education shall promulgate such rules as are necessary to carry out the purpose of this act.

L.1977, c. 390, § 8, eff. Feb. 23, 1978.

Statement: Committee Statement to Senate, No. 1387—L.1977, c. 390, see § 18A:64H–1.

Library References
Physicians and Surgeons ⇐1.
C.J.S. Physicians and Surgeons § 3 et seq.

Administrative Code References
Graduate medical education program, see N.J. A.C. 9:15–1.1 et seq.

APPENDIX B
DISTRIBUTION OF RESIDENTS BY SPECIALTY AND BY HSA, 1982-83

Specialty	HSA I	HSA II	HSA III	HSA IV	HSA V	Total All HSAs
Primary Care:						
Family Practice	6	47	22	66	25	166
General Practice	1	11	0	0	0	12
Internal Medicine	123	347	43	224	86	823
Ob/Gyn	9	53	0	55	18	135
Pediatrics	19	139	0	84	15	257
Total:	**158**	**597**	**65**	**429**	**144**	**1,393**
Medical:						
Cardiology	6	22	3	7	24	62
Endocrinology	0	4	0	2	0	6
Gastroenterology	4	11	2	2	5	24
Hematology	2	8	0	2	0	12
Inf. Diseases	0	9	0	3	0	12
Nephrology	1	10	0	2	0	13
Oncology	0	5	0	0	0	5
Pulmonary	5	12	1	5	4	27
Rheumatology	0	2	0	1	0	3
Total:	**18**	**83**	**6**	**24**	**33**	**164**
Surgical:						
Colon/Rectal	0	1	0	3	0	4
General	1	118	0	70	24	213
Neurology	0	19	0	0	0	19
Ophthalmology	0	16	0	0	0	16
Orthopedic	6	35	0	29	7	77
Otolaryngology	0	11	0	0	4	15
Plastic	0	4	0	0	0	4
Thoracic	0	12	0	0	6	18
Urology	0	10	0	0	2	12
Vascular	3	3	0	1	0	7
Total:	**10**	**229**	**0**	**103**	**43**	**385**
Other:						
Allergy & Immunology	0	1	0	0	0	1
Anesthesiology	23	35	0	16	2	76
Emergency Medicine	0	14	0	0	0	14
Hypertension	0	0	0	1	0	1
Osteopathic PGY-1	9	0	0	0	37	46
Pathology	0	26	0	27	0	53
Pediatric Subsp.	0	21	0	3	3	27
Physical Medicine	0	9	0	0	0	9
Preventive Med.	0	1	0	0	0	1
Primary Care Subsp.	0	5	0	18	0	23
Psychiatry	24	19	0	35	13	91
Public Health	0	0	0	3	0	3
Radiology	4	22	0	7	5	38
Diagnostic Rad.	0	11	0	0	0	11
Therapeutic Rad.	0	3	0	0	0	3
Transitional	8	32	0	4	0	44
Total:	**68**	**199**	**0**	**114**	**60**	**441**
Grand Total:	**254**	**1,108**	**71**	**670**	**280**	**2,383**

APPENDIX C
DISTRIBUTION OF RESIDENTS BY SPECIALTY AND BY PGY, 1982-83

Specialty	PGY I	PGY II	PGY III	PGY IV	PGY V	Total All PGY
Primary Care:						
Family Practice	59	59	48	0	0	166
General Practice	4	8	0	0	0	12
Internal Medicine	320	254	229	20	0	823
Ob/Gyn	29	39	33	28	6	135
Pediatrics	102	93	55	5	2	257
Total:	**514**	**453**	**365**	**53**	**8**	**1,393**
Medical:						
Cardiology	0	1	1	32	28	62
Endocrinology	0	0	0	3	3	6
Gastroenterology	1	0	0	10	13	24
Hematology	0	0	0	6	6	12
Inf. Diseases	0	1	2	4	5	12
Nephrology	0	0	1	7	5	13
Oncology	0	0	0	2	3	5
Pulmonary	0	0	1	16	10	27
Rheumatology	0	0	0	2	1	3
Total:	**1**	**2**	**5**	**82**	**74**	**164**
Surgical:						
Colon/Rectal	1	1	0	1	1	4
General	75	62	25	28	23	213
Neurology	5	5	6	2	1	19
Ophthalmology	5	6	5	0	0	16
Orthopedic	7	19	19	21	11	77
Otolaryngology	4	5	5	1	0	15
Plastic	0	0	0	0	4	4
Thoracic	2	4	1	0	11	18
Urology	4	3	4	1	0	12
Vascular	3	0	0	1	3	7
Total:	**106**	**105**	**65**	**55**	**54**	**385**
Other:						
Allergy & Immunology	0	0	1	0	0	1
Anesthesiology	25	31	17	3	0	76
Emergency Medicine	0	10	4	0	0	14
Hypertension	0	0	0	0	1	1
Osteopathic PGY-1	46	0	0	0	0	46
Pathology	18	20	3	8	4	53
Pediatric Subsp.	1	1	16	7	2	27
Physical Medicine	5	4	0	0	0	9
Preventive Med.	0	1	0	0	0	1
Primary Care Subsp.	8	11	4	0	0	23
Psychiatry	22	35	19	14	1	91
Public Health	0	1	1	1	0	3
Radiology	4	14	12	7	1	38
Diagnostic Rad.	1	4	2	3	1	11
Therapeutic Rad.	1	1	1	0	0	3
Transitional	44	0	0	0	0	44
Total:	**175**	**133**	**80**	**43**	**10**	**441**
Grand Total:	**796**	**693**	**515**	**233**	**146**	**2,383**

APPENDIX D

FEDERALLY DESIGNATED PRIMARY CARE PHYSICIAN MANPOWER SHORTAGE AREAS IN NEW JERSEY, 1983

County	Service Area (HSA)	Degree of Shortage Group*
Atlantic	Atlantic City (HSA V)	04
	Mays Landing (HSA V)	04
Camden	Camden City (HSA V)	01
Cape May	Lower Cape May (HSA V)	02
	Mays Landing (HSA V)	04
Cumberland	Bridgeton (HSA V)	04
	Leesburg State Prison (Facility) (HSA V)	01
Essex	Central Newark (HSA II)	04
	Dayton (HSA II)	01
	Gladys E. Dickinson Area (HSA II)	04
	North Newark (HSA II)	03
Hudson	Downtown Bergen/Lafayette (HSA III)	01
Mercer	Trenton NHG Target Area (HSA IV)	04
Middlesex	Medically Indigent of New Brunswick Urban Corridor (Population Group) (HSA IV)	02
	Family Health Center/Middlesex General Hospital (HSA IV)	02
Passaic	Downtown Paterson (HSA I)	01
	Northside Neighborhood Paterson (HSA I)	01
	West Milford Township (HSA I)	02
Sussex	Entire County (HSA II)	03
Union	Westside Plainfield (HSA II)	02

*Degree of shortage is represented by ratio of number of population served by one FTE physician, R. The definitions of the four groups are : 01 = no physician or R>5,000; 02 = 5,000>R>4,000; 03 = 4,000>R>3,500; 04 = 3,500>R>3,000.

Source: Federal Register, Vol. 48, No. 162, Friday, August 19, 1983, Notices, 37853.

APPENDIX E

DISTRIBUTION OF GME PROGRAMS AND RESIDENTS BY SPECIALTY,
BY HOSPITALS' MEDICAL SCHOOL AFFILIATION STATUS, 1982-83

Specialty	UMDNJ Core Teaching Hospitals	Other UMDNJ Affiliates	Out-of-State Medical School Affiliates	Totals
Primary Care				
Programs	14	30	17	61
Residents	426	624	343	1,393
Medical Subspecialty				
Programs	21	26	3	50
Residents	81	79	4	164
Surgical Subspecialties				
Programs	15	8	9	32
Residents	259	38	88	385
Other Specialties				
Programs	18	13	19	50
Residents	198	110	133	441

APPENDIX F

DISTRIBUTION OF RESIDENTS BY SPECIALTY
AND BY TYPE, 1982-83

Specialty	U.S.	USFMG	FMG	TOTAL BY SPECIALTY
Primary Care	532	444	417	1,393 (58.4%)
Medical Subspecialty	56	23	85	164 (6.9%)
Surgical Specialty	204	121	60	385 (16.2%)
Other Specialty	164	91	186	441 (18.5%)
TOTAL BY TYPE	956 (40.1%)	679 (28.5%)	748 (31.4%)	2,383 (100%)

APPENDIX G

DISTRIBUTION OF RESIDENTS BY HOSPITAL, BY SPECIALTY, BY TYPE*
1982-83

Hospital	Primary Care			Medical Subspecialty			Surgical Specialty			Other Specialty			Total			GRAND TOTAL
	US	USFMG	FMG	US	USFMG	FMG	US	USFMG	FMG	US	USFMG	FMG	US	USFMG	FMG	
Ancora												11			11	11
Atlantic City		9	11											9	11	20
Bergen Pines	1	9	13	1		4				8	3	13	10	12	30	52
Burlington	1	1											1	1		2
Deborah Heart & Lung				6		16	1		5				7		21	28
Englewood	3	18	13										3	18	13	34
Helene Fuld		11	16											11	16	27
Hunterdon	16												16			16
J.F.K. Medical Center	12	6											12	6		18
Memorial General	11						2			2			15			15
Mountainside	18	17	4										18	17	4	39
Muhlenberg	2	13	12										2	13	12	27
Perth Amboy		12	26											12	26	38
Saddle Brook	1						1			9			11			11
Somerset	20	1											20	1		21
St. Elizabeth		14	9											14	9	23
St. Francis	1	10	18				1	5	10				2	15	28	45
St. Mary	2	15	5										2	15	5	22

* According to New Jersey teaching hospitals survey data, hospitals listed are sponsors of the indicated GME offerings. The Department of Health's residents are excluded from this listing.

Hospital	Primary Care			Medical Subspecialty			Surgical Specialty			Other Specialty			Total			GRAND TOTAL
	US	USFMG	FMG	US	USFMG	FMG	US	USFMG	FMG	US	USFMG	FMG	US	USFMG	FMG	
Trenton Psychiatric												12			12	12
United		7	33			2								7	35	42
West Jersey	12	1	3										12	1	3	16
Cooper	26	32	4			2	4	10		1	1	3	31	43	12	83
Hackensack	5	24	2		2	2				3	5	8	8	31	12	51
Jersey City	18	1	24	1		5							19	1	29	49
Jersey Shore		21	29						1		4			25	30	55
Monmouth	38	15	8				7	16	3	11	5	25	56	36	36	128
Morristown	22	13	10					13	4	7	6		29	32	14	75
Overlook	46	11	4	1						15	5	5	62	16	9	87
St. Michael's	6	47	10	4	7	6				2	6	3	12	60	19	91
St. Peter's	7	20	9				9	4		1		2	17	14	11	52
Newark Beth Israel	7	3	28	9		5	4		5	4	1	9	24	4	47	75
St. Barnabas	27	14	12			3	14	9	3	17	8	11	58	31	29	118
St. Joseph's	3	27	39		2	7	3	3	3		7	12	6	39	61	106
University	114	27	46	15	6	25	109	44	23	18	23	57	256	100	151	507
J.F.K. Memorial	44			9			23			44			120			120
Middlesex	65	39	29	10	6	8	26	17	3	19	17	15	120	79	55	254
Warren	4	6											4	6		10
TOTAL	532	444	417	56	23	85	204	121	60	164	91	186	953	679	748	2,380

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225 WEST STATE STREET, CN 542, TRENTON, NEW JERSEY 08625